

WASHOE COUNTY OVERWEIGHT AND OBESITY ACROSS THE LIFESPAN

Overweight and obesity are labels for ranges of weight for a given height that are greater than what is generally considered healthy. These ranges have been shown to increase the likelihood of certain diseases and other health problems. The Body Mass Index (BMI) is a proxy for human body fat based on an individual's height and weight. It is calculated by dividing weight in kilograms by height in meters squared. Table 1 identifies BMI and its corresponding label for adults. Table 2 defines weight status categories for children based on percentile ranges.

Table 1. BMI and Weight Status for Adults

BMI Range	Label
< 18.5	Underweight
18.5-24.9	Normal weight
25.0-29.9	Overweight
30.0-34.9	Class I obesity
35.0-39.9	Class II obesity
≥ 40.0	Class III obesity

Table 2. Weight Status for Children

Weight Status	Percentile Range
Underweight	<5 th percentile
Healthy Weight	5 th to <85 th percentile
Overweight	85 th to <95 th percentile
Obese	≥ 95 th percentile

Research has shown that as weight increases reaching the levels referred to as overweight and obese, the risk for the following conditions also increases:¹

- Coronary heart disease
- Stroke
- Hypertension
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Dyslipidemia (high total cholesterol or triglycerides)
- Liver and Gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis
- Problems such as abnormal menses, infertility

Obesity continues to be a prominent concern across the nation as rates have increased significantly over the past thirty years. Overweight and obese children are more likely to become obese adults, and among children who are overweight or obese, research has shown that 1 in 5 have high cholesterol.²

Obesity prevention efforts have been expanding in focus and include efforts such as reaching women before

conception, encouraging breastfeeding, and education and support for healthy lifestyles at all ages.

METHODS

Adult BMI data were obtained from the Behavioral Risk Factor Surveillance System (BRFSS), where respondents self report height and weight data. Because the source data had been weighted it was not possible to perform statistical tests to determine the significance of proportional differences among groups.

For the past four school years (2007-2008 thru 2010-2011), height and weight were collected on samples of Washoe County School District (WCSD) 4th, 7th, and 10th graders. Schools were randomly selected using school enrollment for the 2005-06 school year (16 elementary schools, four middle schools, and four high schools) and have remained consistent for each school year. Data can be generalized to all Washoe County school-age children. Statistical tests on the difference of proportions among groups were performed using chi-square.

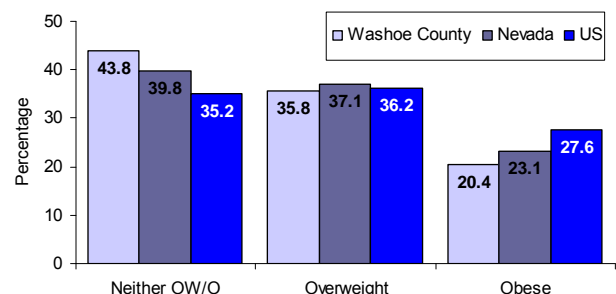
Preschool age data were collected from Washoe County School District early childhood education programs, Early Head Start and independent child care centers.

For children, the BMI and BMI percentile were calculated using the CDC-provided children's BMI tool for schools. BMI is used as a screening tool to identify possible weight problems for children and is not a diagnostic tool; it is currently the best assessment available to determine weight classifications.

RESULTS & DISCUSSION

For simplicity, the following reported values are point estimates. The 95% confidence intervals are not presented in this report. OW stands for overweight and O stands for obese.

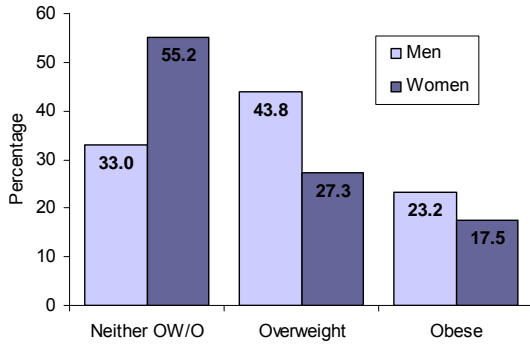
Figure 1. Adult Weight Washoe County, Nevada, and US; 2010



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

The majority of Washoe County adults are overweight or obese 35.8% and 20.4% respectively.

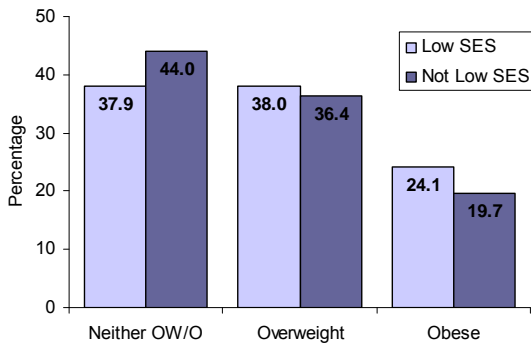
Figure 2. Adult Weight and Gender in Washoe County, 2010



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Women in Washoe County had lower rates of overweight or obese than men in Washoe County.

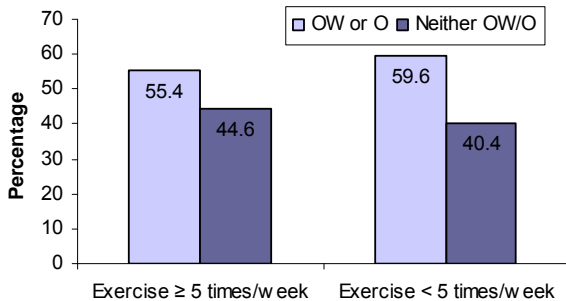
Figure 3. Socioeconomic Status (SES) and Adult Weight in Washoe County, 2010.



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

SES was considered low if respondent had no health plan or education was less than high school or income was less than \$35,000. Those with low SES were found to have slightly higher rates of overweight and obesity.

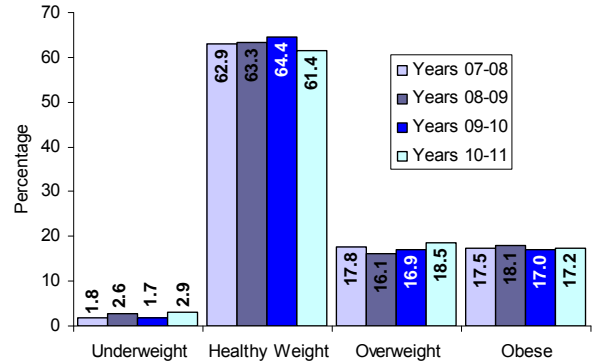
Figure 4. Weight and Exercise in Adults in Washoe County, 2010.



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

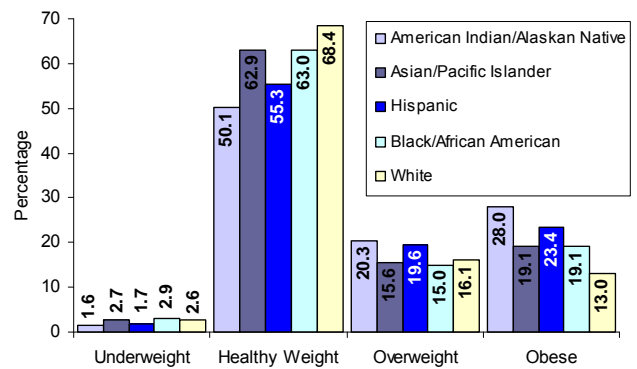
Adults exercising 5 or more times per week had a lower rate of overweight or obese than those not exercising this much.

Figure 5. Washoe County Childhood BMI Grouping by school year.



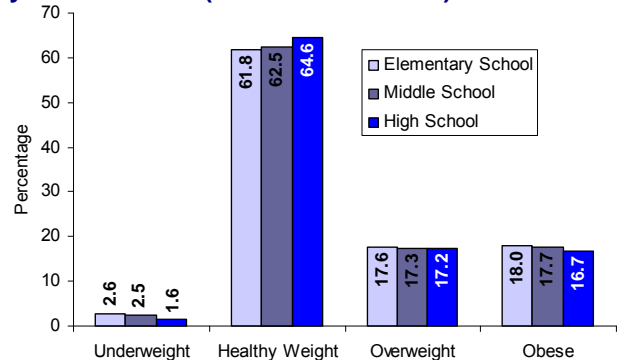
The majority of Washoe County students continue to be at a healthy weight. Over a third of students in Washoe County are overweight or obese.

Figure 6. Washoe County Childhood BMI Grouping By Race/Ethnicity (2008-11 combined).



White children in Washoe County are most likely to be at a healthy weight, followed by Asian/Pacific Islander. American Indian/Alaskan Native children are most likely to be overweight or obese, followed by Hispanic.

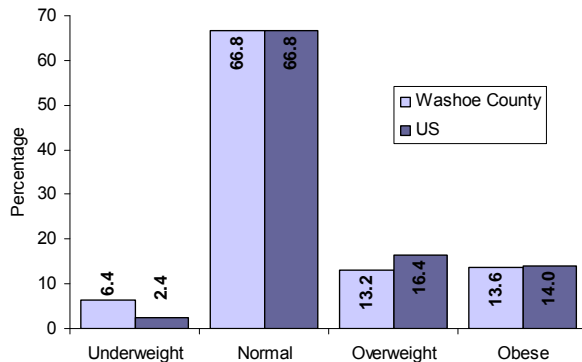
Figure 7. Washoe County Childhood BMI Grouping By School Level (2008-11 combined).



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Washoe County high school students have the highest percentage of healthy weight (64.6%) and elementary students having the lowest (61.8%).

Figure 8. Washoe County Preschoolers Ages 2-5 Compared to US Preschooler Ages 2-5 (2010- 2011)⁴.



Preschoolers in Washoe County are less likely to be overweight, and more likely to be underweight than their US counterparts. Rate of normal weight and obesity are similar between Washoe County and the US.

Washoe County has a higher rate of underweight preschool children compared to the US rate (6.4% vs. 2.4%). Underweight can be indicative of underlying health conditions, disordered eating, or food access issues.

RECOMMENDATIONS

These data show overall high rates of overweight and obesity among Washoe County adults and youth. Many factors contribute to this trend in Washoe County and the US such as physical inactivity, poor nutrition, and lack of access to healthy foods, among other factors.

Medical visits are opportunities for healthcare professionals to assess, prevent, and intervene with overweight and obesity for individuals and families. The American Academy of Pediatrics (AAP) and the American Medical Association are supporters of the national “Let’s Move Initiative” which targets childhood obesity and has two primary goals:

- Body Mass Index (BMI) is calculated for every child at every well-child visit beginning at the 24 month visit in accordance with AAP recommendations. Information is provided to parents about how to help their child achieve a healthy weight.
- Prescriptions for healthy active living (good nutrition and physical activity) are provided at every well-child visit, along with information for families about the impact of healthy eating habits and regular physical activity on overall health.⁴

Data gained from screening children can assist with development of population based-public health programs when shared with local health departments for analysis.

For more information about the AAP goals and recommendations, please visit: www.aap.org/obesity

For the assessment and management of adult obesity, the American Medical Association (AMA) has a primer that offers recommendations on

- Evaluating patients for current and potential health risks related to weight—beginning with a measure of the body mass index (BMI);
- Understanding medication and surgical options;
- Improving communication and counseling; and
- Making office environments more accommodating to obese patients.

This primer as well as clinical tools and patient handouts can be found on the AMA website: <http://www.ama-assn.org/> (search for Assessment and Management of Adult Obesity)

REFERENCES

1. NIH, NHLBI Obesity Education Initiative. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Available online: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf (PDF-1.25Mb)
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3. CBS News. Study: 1 in 5 Preschoolers Obese. Retrieved November 17, 2010 from: <http://www.cbsnews.com/stories/2009/04/06/health/main4923990.shtml>
4. JAMA, Vol 299 No.20, May 28, 2008 – US DATA
5. American Academy of Pediatrics. Spotlight: Whitehouse Obesity Initiative. Retrieved on October 24, 2011 from <http://www.aap.org/obesity/whitehouse/index.html>



The Washoe County Health District would like to give special thanks and recognition to the Washoe County School District for school age and preschool data and the local preschools which voluntarily provided the height and weight information for their 2-5 year old children in care. We would also like to thank Dr. Nageshwara Gullapalli for his work analyzing these data as part of a UNR internship.

If you are interested in sharing BMI data for children 2-5 years old in your medical practice, please contact the Health District at 325-8244.

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