

- Overweight and Obesity in Washoe County Youth (aged 2-21 years) – 2010

OVERWEIGHT AND OBESITY IN WASHOE COUNTY YOUTH (AGED 2-21 YEARS) – 2010

Childhood obesity continues to be a prominent concern across the nation. Overweight and obese children are more likely to become obese adults and are at greater risk for chronic illnesses such as type 2 diabetes, heart disease, stroke, and several types of cancer. Among children who are overweight or obese, research has shown that one in five have high cholesterol.¹

Experts agree that the problem may begin as early as 2 years old and may even be dependent on a mother's health when she becomes pregnant promoting a new focus in chronic disease on "preconception health." A national study conducted by the National Center on Educational Statistics showed that one in five preschool children is overweight or obese.² These figures are alarming as children are being diagnosed with chronic diseases at younger ages.

METHODS

For the past three school years height and weight were collected on samples of Washoe County School District (WCSD) 4th, 7th, and 10th graders. The Office of Health Statistics and Surveillance with the Nevada State Health Division randomly selected the schools using school enrollment for the 2005-06 school year. The process randomly selected 16 elementary schools, four middle schools, and four high schools. These schools remained consistent from the 2007-08 to the 2009-10 school year, and these data can be generalized to all Washoe County school-age children. For the first time, preliminary data for 151 preschoolers from Washoe County School District early childhood education (ECE) programs were available for this report.

Height and weight were collected from University of Nevada, Reno students through a survey of students in 2007 and in 2009.

The Body Mass Index (BMI) and BMI percentile were calculated using the CDC-provided children's BMI tool for schools. See the table below for how weight status categories are defined.

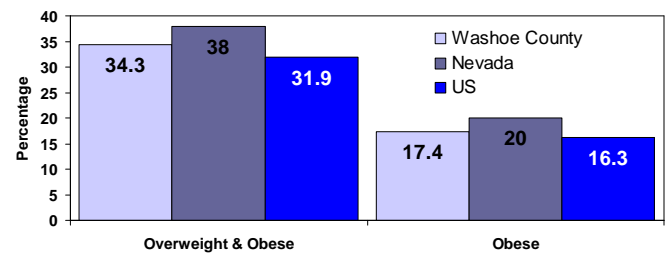
Weight Status	Percentile Range
Underweight	<5 th percentile
Healthy Weight	5 th to <85 th percentile
Overweight	85 th to <95 th percentile
Obese	≥ 95 th percentile

Although BMI is used only 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

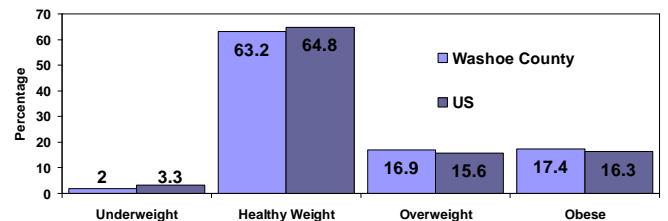
For the simplicity of graphs, the following reported values are point estimates. The 95% confidence intervals are not presented in this report.

Figure 1. Washoe County School-Age Children (2008-10 school years combined) compared to NV (2007-08) and US (2003-06)³



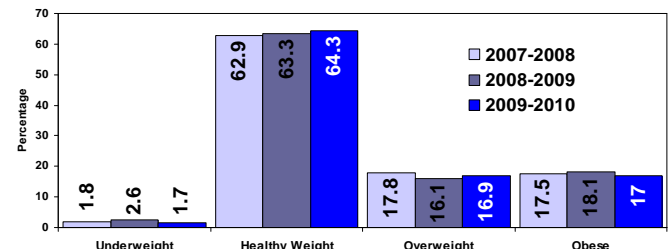
Washoe County's rate for childhood overweight and obesity (34.3%) is higher than the US (31.9%) but lower than the most recent data available for Nevada (38%).

Figure 2. Washoe County School-Age BMI (2008-10 school years combined) compared to the US (2003-06).³



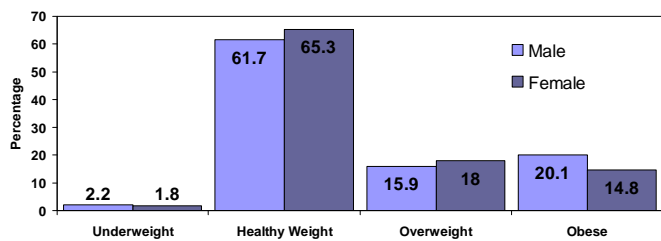
The percent of Washoe County children at a healthy weight (63.2%) is less than the US rate of 64.8%.

Figure 3. Washoe County BMI Grouping by School Year.



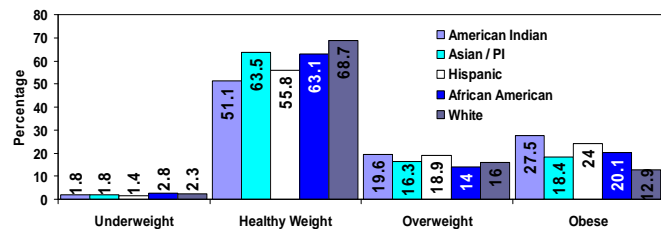
Over the past three school years the percent of healthy weight in Washoe County children has improved in relation to the US. Overweight and obesity have decreased commensurately but are still above US rates.

Figure 4. Washoe County BMI Grouping by Gender, (2008-10 school years combined).



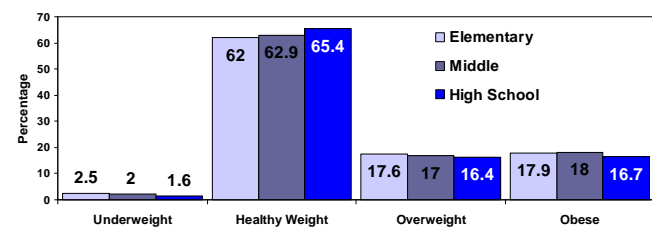
Boys tend to have a higher percentage of underweight and obesity than girls in Washoe County, whereas girls have a higher percentage of healthy weight and overweight. This difference is statistically significant ($p=0.0000$).

Figure 5. Washoe County Childhood BMI Grouping by Race/Ethnicity, (2008-10 school year combined).



African American children have the highest percentage of underweight followed by white children. American Indian and Hispanic children have the lowest percentages of children at a healthy weight while white children have the highest percentage. American Indian and Hispanic children have a significantly higher percentage of overweight and obese with one in five children overweight and one in four obese in both groups.

Figure 6. Washoe County Childhood BMI Grouping by Grade Level (2008-10).



The percentage of underweight decreases as children get older and the percentage of healthy weight increases, peaking in high school (65.4%) at above the US rate of 64.8%.

Washoe County high school students have the lowest percentage of overweight (16.4%) and elementary students have the highest (17.6%).

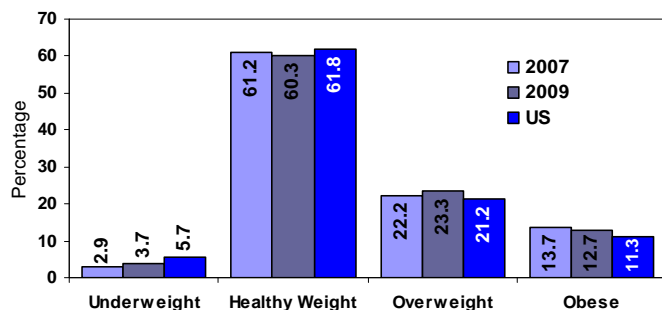
Washoe County Preschoolers Ages 3-5 (2010) Compared to US Ages 2-5 (2009)

In 2010 15.9% of children in WCSD Early Childhood Education (ECE) programs were obese, which is higher than the US rate (ages 2-5 years) in 2009 of 14.7% (Data source for US rate: 2009 Pediatric Nutrition Surveillance). In WCSD ECE 10.6% of the children were overweight versus 16.4% of preschoolers nationwide. When looking at the combined rates of overweight and obesity, WCSD ECE children rates are lower at 26.5% compared to the national average of 31.1%.⁴

There are a high percentage of underweight preschool children in WCSD programs at 12.6%. Underweight can be indicative of underlying health conditions, disordered eating, or food access issues.⁴ National data for the same age group was not available.

Due to the small sample size of only 151 children, future data collection and analysis is needed for more accurate comparison and generalizations. It is also important to note that the US rate was for the 2-5 years age group, which is slightly different than the local age group which was the 3-5 years age group.

Figure 7. BMI for University of Nevada, Reno Students (2007, 2009), Compared to US (2009).⁵



College student survey data in 2007 and 2009 provided by University of Nevada, Reno (UNR) indicated that the percentage of underweight and healthy weight were slightly lower than the US average. The percentage of overweight and obese was slightly above the US average. National data was from the American College Health Association.⁵

RECOMMENDATIONS

These data show overall high rates of overweight and obesity among Washoe County 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 others.

Medical visits are opportunities for healthcare professionals to assess, educate, and intervene with overweight and obesity in families. The American

Academy of Pediatrics (AAP) is part of the national “Let’s Move Initiative” 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.⁶

Data gained from screening children can assist with development of population based public health programs when shared with local health departments for analysis. A recent longitudinal study of individuals aged 12-21 years found that nearly one in 12 teenagers became severely obese. Many were 100 pounds above their ideal weight as they entered adulthood. Non-Hispanic African American girls were most likely to become severely obese adults if they were overweight as teenagers. It is estimated that a 20 year old man with a BMI of 45 will lose 13 years of life due to obesity related issues.⁷

High cholesterol, and therefore an increased risk of heart disease is just one consequence of obesity. According to a recent study by the CDC, “twenty percent of U.S. children and teens have abnormal lipid levels, an indication of too much bad cholesterol, too little good cholesterol or high triglycerides.”¹ Health care providers should be aware of lipid screening guidelines and treatments, especially for obese and overweight youth. The AAP recommends screening for young people with:

- Family history of high cholesterol or premature cardiovascular disease (CVD).
- Unknown family history of high blood cholesterol or premature CVD.
- At least one major risk factor for heart disease, such as smoking, high blood pressure, diabetes, or being overweight or obese.¹

All overweight or obese youths with abnormal lipid levels are candidates for therapeutic lifestyle counseling. Once identified, an individual approach should be used to refer youths to nutritional counseling, community fitness programs, and school-based lifestyle programs. Obesity is a public health epidemic that can be prevented through the combined efforts of healthcare providers, public health professionals, children, and their families.

For more information about the AAP goals and recommendations, please visit: www.aap.org/obesity. For local statistics on obesity, please check out WCHD’s website for previous EpiNews on obesity at <http://www.washoecounty.us/health/cdpp/epinews.html>.

REFERENCES

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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, UNR Student Health Services for college-age data. Further efforts to collect data from the preschool group are underway.

If you are interested in sharing BMI data for children 2-5 years old in your medical practice, please contact us at 775-328-2627.

