

Maternal and Child Health Issue Brief

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Early Childhood Obesity in Colorado



Why is early childhood obesity a problem?

Overweight and obese young children often become overweight and obese school-age children, teens and adults, increasing their risk of chronic and obesity-related disease over time. The risk of early childhood obesity begins before conception, during pregnancy, and during the earliest years of life. Maternal overweight and obesity prior to and during pregnancy can perpetuate the occurrence of obesity into the next generation. In addition, early patterns of eating, physical activity and sleep greatly influence child health and weight, permanently altering neurological and metabolic systems and behavior.¹

Just under 25 percent of children ages 2 to 4 years were overweight or obese in recent years, as shown below.² About 14 percent were overweight and 10 percent were obese. Reliable Colorado data are limited to the low-income population at this time though national data reveal that overweight and obesity are prevalent among children of all income levels.³

Reducing obesity is a Winnable Battle for the Colorado Department of Public Health and Environment with a focus on early childhood obesity prevention for the Colorado Maternal and Child Health Program.

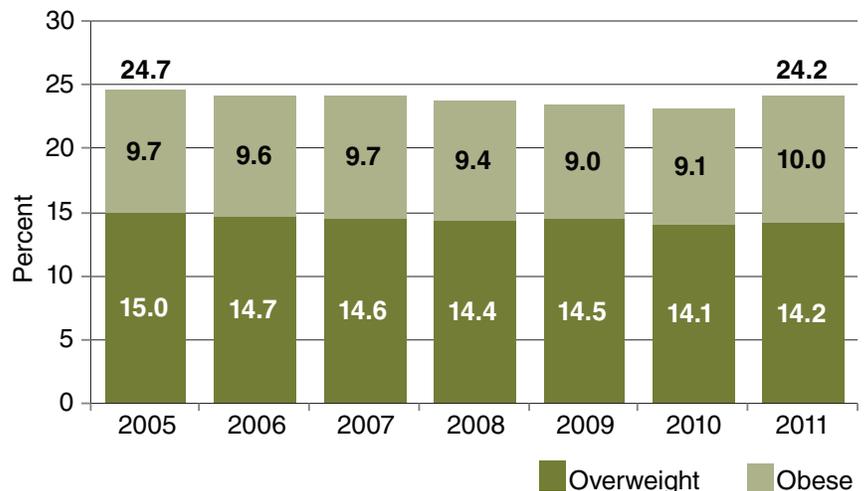
Definitions

Growth charts measuring length (or stature) and weight for age by gender are used to determine overweight and obesity. World Health Organization growth charts are used for infants and children under 2 years old, and Centers for Disease Control and Prevention growth charts are used for children ages 2 to 5 years.⁴

Infants or children under age 2 are considered **at risk of overweight** if their body mass index is between the growth chart percentiles of 84.1 and 97.7. Infants in excess of the higher percentile are considered **overweight**.

Children ages 2 to 5 are defined as **overweight** if they are between the 85th and 95th percentile on the growth chart and **obese** if they are at or above the 95th percentile.

Figure 1. Prevalence of overweight and obesity in children ages 2 to 4 in low-income families, Colorado, 2005-2011.

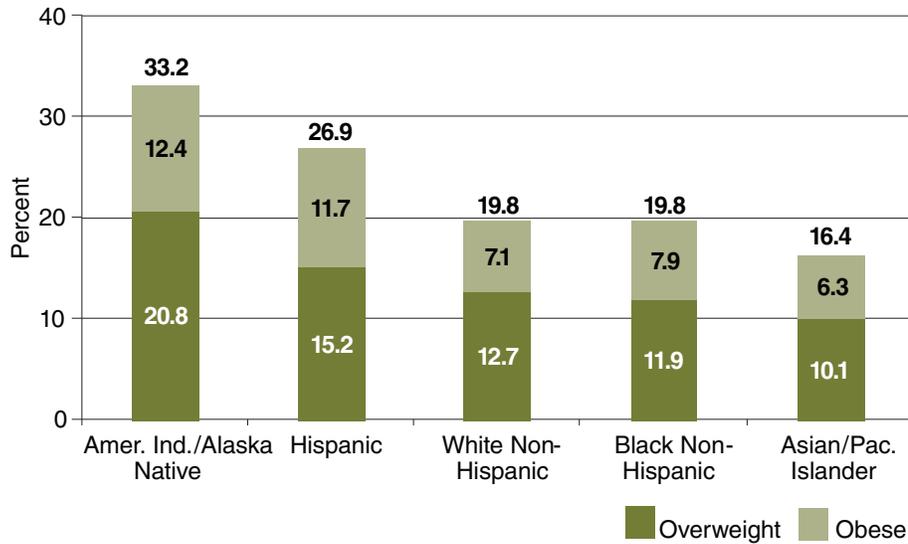


Source: Women, Infants and Children (WIC).

Healthy People Goal: By 2020 the proportion of children ages 2 to 5 who are obese will be reduced to 9.6 percent.⁵

Health disparities in young children (ages 2 to 4) and mothers

Figure 2. Prevalence of overweight and obesity in children ages 2 to 4 in low-income families, by race/ethnicity, 2011.²

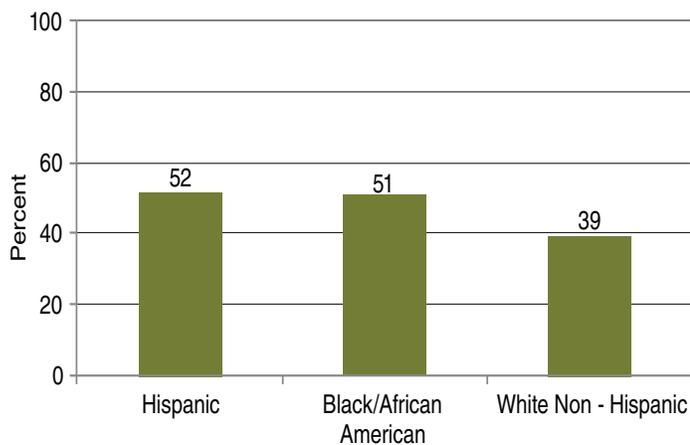


One-third of American Indian/Alaska Native children in low-income families are overweight or obese, which is double the prevalence for Asian/Pacific Islander children (16.4 percent). One-quarter of Hispanic children (26.9 percent) and close to 20 percent of White and Black Non-Hispanic children of low-income families are also overweight or obese.

Who is more likely to be overweight or obese?

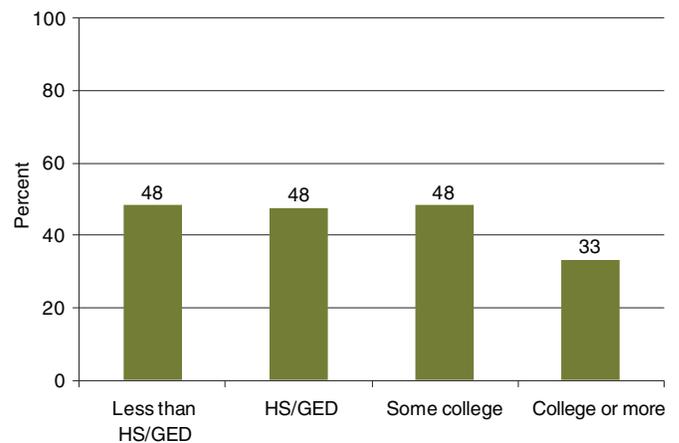
- Native American or Hispanic children in low-income families
- Mothers who are Hispanic or Black
- Mothers who do not have at least a college education

Figure 3. Prevalence of maternal prepregnancy overweight and obesity by race/ethnicity, 2010-2011.⁵



Before pregnancy, half of Hispanic or Black mothers are overweight or obese, while 39 percent of mothers who are White Non-Hispanic are overweight or obese. The difference between the prevalence in minority groups compared to White Non-Hispanic mothers is significant.

Figure 4. Prevalence of maternal prepregnancy overweight and obesity by education, 2010-2011.⁶



Before pregnancy, half of mothers who have less than a college education are overweight or obese, while one-third of mothers with a college education or more are overweight or obese. Overweight and obesity is equally prevalent in all groups with less education, and significantly different from the group with the most education.

What are the causes of early childhood obesity?

Obesity in early childhood results from a complex interplay of multiple environmental, behavioral, and genetic factors. Exposures to these factors occur among women prior to and during pregnancy and among children before the age of five years.

Factors related to the preconception, prenatal, and infancy periods are most strongly linked to obesity risk in early childhood. Maternal obesity prior to pregnancy is a strong predictor. Likewise, excessive weight gain during pregnancy increases the risk of obesity in the child.^{1,7} In 2011, 43 percent of mothers in Colorado were overweight or obese before pregnancy and only 33 percent gained an appropriate amount of weight (neither too little nor too much) during pregnancy.⁶ Contrary to popular belief that infants “outgrow their baby fat” over time, evidence also links rapid weight gain during infancy with obesity in childhood.^{1,7}

Two factors closely related to gestational weight gain, high and low birth weight, are also risk factors for obesity in the child.^{1,7} The percentage of low birth weight (less than 2500 grams) babies born in Colorado has improved, declining from 9.3 in 2005 to 8.7 in 2011. However, 48 percent of mothers gained an excessive amount of weight in 2011, more weight than recommended by the Institute of Medicine guidelines based on body mass index.¹ In addition, 5 percent of births in 2011 qualified as high birth weight (4000 grams or more).⁶

A number of studies have documented an association between maternal smoking during pregnancy and risk of obesity in the child,^{1,7} and 6 percent of pregnant Colorado women smoked during pregnancy in 2011.⁶

Parenting practices clearly play an important role in this complex issue. Child consumption of sugar sweetened beverages and excessive time spent viewing television in combination with exposure to marketing of energy dense, nutrient-poor foods contribute to risk.^{1,7} In 2011, 17 percent of Colorado children ages 1 to 5 years spent more than two hours daily watching TV or videos, playing video games, or playing on a computer, and 14 percent consumed at least one glass or can of regular soda pop or other sweetened drinks per day.⁸

In addition, poor sleep habits can result in shorter sleep duration among children, which is a strong predictor of obesity in early childhood.^{1,7} In 2011, one-half (49 percent) of Colorado children ages 1 to 5 years typically did not get as many hours of sleep as were recommended for their age group (12 or more hours for under age 3 years and 11 or more for ages 3 to 5).⁸

Feeding practices that are not responsive to hunger and satiety among infants and young children may also contribute to the risk of obesity.⁷

How can early childhood obesity be prevented?

Promising prevention strategies aim to identify risky growth patterns in children early, increase physical activity and decrease sedentary behavior, and improve access to and consumption of healthy foods among women of reproductive age, children, parents, and caregivers.

In 2011, 31 percent of Colorado women of reproductive age did not meet aerobic and strengthening guidelines. In addition, despite recommendations to increase fruit and vegetable consumption as part of a healthy diet, the median fruit consumption was 1.1 times per day and the median vegetable consumption was 1.9 times per day.⁹

Prevention strategies also intend to increase the number of infants exclusively breastfed at six months and increase the duration of breastfeeding among infants. A number of studies associate breastfeeding and a reduction in obesity risk in childhood.^{1,7} Colorado currently has just over a quarter (27 percent) of infants exclusively breastfed (no other food or liquids) at six months. A total of 57 percent receive some breast milk at that age and 27 percent of all infants continue breastfeeding to twelve months.¹⁰



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Maternal and Child Health Program, Prevention Services Division
Telephone: 303-692-2503
www.mchcolorado.org



Colorado Department
of Public Health
and Environment