

# Prevalence of Vitamin D Deficiency Among Overweight and Obese US Children 🛒

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## OBJECTIVE:

Adequate vitamin D is essential for skeletal health in developing children. Although excess body weight is associated with risk of vitamin D deficiency, the national prevalence of and risk factors associated with vitamin D deficiency in overweight and obese children are unknown.

## METHODS:

The prevalence of vitamin D deficiency (defined as 25-hydroxyvitamin-D <20 ng/mL) was determined in a sample of 6- to 18-year-old children who were enrolled in a cross-sectional study (the 2003–2006 National Health and Nutrition Examination Survey) in which body weight and height were measured directly. Children were classified as healthy-weight, overweight, obese, or severely obese by using recommended age- and gender-specific BMI-percentile cut points. Associations between BMI-percentile classification and vitamin D deficiency were examined after adjustment for relevant confounders. Sample weights were used to generate nationally representative estimates.

## RESULTS:

The prevalence of vitamin D deficiency in healthy-weight, overweight, obese, and severely obese children was 21% (20%–22%), 29% (27%–31%), 34% (32%–36%), and 49% (45%–53%), respectively. The prevalence of vitamin D deficiency in severely obese white, Latino, and African-American children was 27%

(3%–51%), 52% (36%–68%), and 87% (81%–93%), respectively. Compared with healthy-weight children, overweight, obese, and severely obese children had significantly greater adjusted odds of vitamin D deficiency. Modifiable factors associated with vitamin D deficiency in overweight/obese children were identified.

## CONCLUSIONS:

Vitamin D deficiency is highly prevalent in overweight and obese children. The particularly high prevalence in severely obese and minority children suggests that targeted screening and treatment guidance is needed.

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**Subjects:** Chapters Views & News, In Memoriam

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