

Lack of vitamin D causes weight gain and stunts growth in girls

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Insufficient vitamin D can stunt growth and foster weight gain during puberty, according to a new study published in the *Journal of Clinical Endocrinology & Metabolism*. Even in sun-drenched California, where scientists from the McGill University Health Centre (MUHC) and the University of Southern California conducted their study, vitamin D deficiency was found to cause higher body mass and shorter stature in girls at the peak of their growing spurt.

While lack of vitamin D is common in adults and has been linked to diseases such as osteoporosis, cancer and obesity, until this study, little was known about the consequences of insufficient vitamin D in young people. The research team measured vitamin D in girls aged 16 to 22 using a simple blood test (25-hydroxy vitamin D). They also assessed body fat and height to determine how vitamin D deficiency could affect young women's health.

"The high prevalence of vitamin D insufficiency in young people living in a sun-rich area was surprising," says study lead author, Richard Kremer, co-director of the Musculoskeletal Axis of the MUHC. "We found young women with vitamin D insufficiency were significantly heavier, with a higher body mass index and increased abdominal fat, than young women with normal levels."

Vitamin D fosters growth, healthier weight

The researchers examined 90 Caucasian and Hispanic girls and discovered that young women with normal vitamin D levels were on average taller than peers deficient in vitamin D. Yet in contrast to what's been previously reported in older women, their investigation found no association between lack of vitamin D and bone strength.

"Although vitamin D is now frequently measured in older adults, due to a higher level of awareness in this population, it is rarely measured in young

people – especially healthy adolescents," says Dr. Kremer.

"Clinicians need to identify vitamin D levels in younger adults who are at risk by using a simple and useful blood test," says the co-author, Dr. Vicente Gilsanz, head of musculoskeletal imaging at the Children's Hospital Los Angeles of the University of Southern California.

"Because lack of vitamin D can cause fat accumulation and increased risk for chronic disorders later in life, further investigation is needed to determine whether vitamin D supplements could have potential benefits in the healthy development of young people," added Dr. Gilsanz.

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