

First study to examine vitamin D insufficiency in pediatric patients with low bone density

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Vitamin D insufficiency is common in adults and is emerging in the world of pediatrics. A mild degree of vitamin D deficiency, also known as vitamin D insufficiency, causes rickets in children and can be treated with increased amount of nutritional vitamin D intake as well as increased sun exposure.

A new study conducted by physicians and researchers at Nationwide Children's Hospital, is the first study to investigate vitamin D insufficiency in pediatric patients with low bone density.

According to the study, published in the June issue of *Pediatrics*, among the 85 patients studied, 80 percent had a vitamin D insufficiency. All the patients had a history of bone fragility or underlying chronic medical conditions that put them at a risk of osteoporosis, which is not just an adult disease, but is seen in children and can originate during childhood. Vitamin D insufficiency may contribute to low bone mass or even make the underlying metabolic bone disease worsen if not treated. Vitamin D is essential in bone growth and mineralization in children and adults.

The study's lead author, Sasigarn Bowden, MD, a pediatric endocrinologist and attending physician in the Metabolic Bone Clinic at Nationwide Children's explains, "We need to check vitamin D levels in all patients with history of multiple fractures or low bone density and treat the vitamin D problem if the levels are low. The supplementation of

vitamin D should be a priority in the management of pediatric patients with osteoporosis or osteopenia in order to optimize their bone health and potentially prevent fractures."

Potential factors that may account for vitamin D insufficiency in various chronic medical conditions include low vitamin D intake and decreased sun exposure. Four studies in Europe found that 80 percent of healthy children and adolescents had insufficient vitamin D levels in the winter.

"Due to the number of recent studies of healthy children or adolescents with a high prevalence of vitamin D insufficiency, the public should be aware of the fact that it is common, especially living in high altitude," said Bowden, also an assistant professor of Pediatrics at The Ohio State University College of Medicine. "Sometimes our vitamin D levels get low at the end of winter due to less exposure to sunlight, but if we take a multivitamin D supplement, or consume an adequate amount of vitamin D from dietary sources such as vitamin D fortified milk or orange juice, we should be okay throughout the entire year."

Source: Nationwide Children's Hospital

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