

Vitamin D's Role in Osteoporosis

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EDITORIAL NOTE

Vitamin D aids in the absorption of calcium and phosphorus from diet. As a result, the vitamin is critical for persons suffering from osteoporosis. Calcium and vitamin D, when taken combined, have been shown to help women after menopause create stronger bones. It also aids in the treatment of diseases that create weak bones, such as rickets. Osteoporosis is a skeletal illness characterised by a loss of bone mass and degeneration of bone tissue's microarchitecture. Osteoporosis is defined by the World Health Organization as a 50% loss in bone mass and bony quality (50%). Because circulating vitamin D is mostly derived from cutaneous synthesis, it should be classified as a hormone rather than a vitamin. Due to its significance in different physiological systems, vitamin D insufficiency (50 nmol/L) is a worldwide epidemic with multiple consequences for human health. Vitamin D receptors can be found in nearly every tissue and cell type in the body. This has allowed us to reconsider its involvement in illnesses such as cardiovascular disease, oligospermia, and breast cancer prevention, in addition to osteoporosis. Vitamin D₃ (cholecalciferol) is mostly derived from a cholesterol derivative, 7-dehydroxycholesterol, which is synthesised in the skin under the influence of sunshine and UV rays. 25 Hydro

Oxide (OH) vitamin D 50 nmol/L was used to identify vitamin D insufficiency. Vitamin D deficiency is now considered a global epidemic. More than 60% of postmenopausal women, even populations in sunny regions like the Middle East, Australia, and Spain, have low 25 Hydro Oxide (OH) vitamin D serum levels, which is a public health concern.

Osteoporosis is a skeletal disease marked by a loss of bone mass and a breakdown of the microarchitecture of bone tissue. The World Health Organization defines osteoporosis as a 50% reduction in bone mass and quality (50%). Osteoporotic fractures are prevalent in postmenopausal women and are a severe health concern. Vitamin D has an impact on fracture risk through influencing bone metabolism and the risk of falling. The effect of supplemental vitamin D on fracture risk has mostly been studied in men and women over the age of 65. Vitamin D at levels ranging from more than 10 g to 20 g/day had no discernible benefit, according to a recent meta-analysis. Another study found that vitamin D alone is unlikely to prevent hip fracture (RR 1.15%, 95% CI 0.99%-1.33%), vertebral fracture (RR 0.90%, 95% CI 0.42%-1.92%), or any new fracture (nine trials, 24,749 participants, RR 1.15%, 95% CI 0.99%-1.33%).

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