

D POWER

To Protect Heart

FBLVD3/INT/05/25/01

Vitamin D has been implicated in a range of physiological processes beyond its classical role in calcium homeostasis. Vitamin D undertakes a protective role in CVD by demonstrating a negative association with hypertension, inflammatory response and oxidative stress. Fermenta, a leading manufacturer of Vitamin D, presents this D-Essence Newsletter to highlight the latest research on the Role of Vitamin D in Cardiovascular Wellness.

Vitamin D supplementation might be beneficial for ASCVD prevention

The association between Vitamin D supplementation and ASCVD was investigated by leveraging data obtained from the UK Biobank. Among 4,09,822 participants, 20.7% and 34.4% were Vitamin D deficient (<30 nmol/L) and insufficient (30 to <50 nmol/L), respectively, with only 4.3% using Vitamin D supplements regularly. Vitamin D deficiency significantly increased ASCVD risk including its individual endpoints (IHD, cerebrovascular disease, atherosclerotic disease and PAD) compared to Vitamin D sufficiency (50 to <100 nmol/L). After adjusting for confounding variables, Vitamin D supplementation reduced the risk of total ASCVD and IHD by 6% and 10%, respectively, Vs. non-users.

Shu S et al. Clin Nutr. 2025
Apr 16;49:118-127

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Vitamin D supplementation potentially regulates blood pressure



A systematic review of 12 studies assessed the impact of Vitamin D supplementation (intervention duration varied from 8 to 48 weeks) on BP. A study which included patients having the highest baseline BP (Vs. other studies) and employed 50,000 IU/week Vitamin D supplementation for 8 weeks demonstrated the greatest BP reduction of -28.44 / -7.38 mmHg. In remaining studies, the BP reduction ranged from -0.5 to -4.5 mmHg for SBP and -1 to -5 mmHg for DBP and this variability was prominently influenced by dosage, duration and baseline BP levels. Overall, Vitamin D supplementation substantially reduced BP levels particularly at higher doses over shorter durations.

John H et al. Currus. 2025
Mar 25;17(3):e81150

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Vitamin D levels may be inversely associated with CVD risk in T2DM



A cross-sectional study explored the correlation between Vitamin D levels and CVD risk among T2DM patients. Among 1,378 individuals, after adjusting for potential confounders, Vitamin D deficiency (< 12 ng/mL) increased the odds of CVD by 2.25-fold compared to Vitamin D sufficiency (≥ 20 ng/mL). This negative association was particularly significant among women, older adults, normal-weight ($BMI < 24 \text{ kg/m}^2$) and obese ($BMI \geq 28 \text{ kg/m}^2$) adults. Additionally, Vitamin D deficiency increased the risk of overweight ($24 \leq BMI < 28 \text{ kg/m}^2$) / obesity, hypertension, hypertriglyceridemia and reduced HDL-C by 57%, 81%, 56% and 67%, respectively, Vs. Vitamin D sufficiency.

Zhang N et al. Sci Rep. 2025
Feb 22;15(1):6454

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