

In a recent study, black American adults experienced a significant, yet modest, dose-dependent decrease in systolic blood pressure after 3 months of vitamin D supplementation of 1000 IU, 2000 IU or 4000 IU per day.

Vitamin D supplementation decreases blood pressure in black American adults

As a population, black Americans have significantly higher rates of hypertension than other races, and are also known to have lower vitamin D levels in the blood. In a new study published in the journal *Hypertension*, researchers sought to determine whether there is a dose dependent connection between circulating vitamin D levels and blood pressure in black American adults.

The participants included 283 black adults with an average age of 51 who were randomized into a 4-arm double-blind trial for 3 months. The groups included a placebo control, and groups taking 1000 IU, 2000 IU, or 4000 IU of vitamin D per day. Vitamin D levels and blood pressure were measured at the beginning of the study, at 3 months, and a follow-up at 6 months. The follow-up was completed by 250 of the participants.

In the placebo group, the difference in systolic blood pressure between the beginning and 3 months was + 1.7 mm Hg. In the same time period, those taking 1000 IU/day averaged a decrease of 0.66 mm Hg, those taking 2000 IU/day averaged a decrease of 3.4 mm Hg, and those taking 4000 IU/day averaged a decrease 4.0 mm Hg. The researchers found that for every 1 ng/mL increase in blood vitamin D level, there was a small, but significant, decrease in systolic blood pressure of 0.2 mm Hg. In this study, vitamin D supplementation did not appear to have any measurable effect on diastolic blood pressure.

The results of this study support the idea that plasma vitamin D levels may significantly influence blood pressure, and that oral vitamin D supplements may potentially lower systolic blood pressure. More research is needed to confirm these results, especially in populations that are most susceptible to low vitamin D levels and the incidence of hypertension.

John P. Forman et al. Effect of Vitamin D Supplementation on Blood Pressure in Blacks. *Hypertension*. 2013; 61: 779-785.