

Vitamin D supplements may help African Americans lower blood pressure

March 13 2013

Vitamin D supplements significantly reduced blood pressure in the first large controlled study of African-Americans, researchers report in the American Heart Association journal *Hypertension*.

In the prospective trial, a three-month regimen of daily vitamin D increased circulating [blood levels](#) of vitamin D and resulted in a decrease in systolic blood pressure ranging from .7 to four mmHg (depending upon the dose given), compared with no change in participants who received a placebo.

Systolic blood pressure, the top and highest number in a reading, is pressure in the arteries when the heart beats. Diastolic blood pressure, the bottom and lower number, is pressure in the [arteries](#) between heart beats.

"Although this needs to be studied further, the greater prevalence of [vitamin D deficiency](#) among African-Americans may explain in part some of the racial disparity in blood pressure," said John P. Forman, M.D., M.Sc., lead author of the study and Assistant Professor of Medicine in the Renal Division and Kidney Clinical Research Institute at Brigham and Women's Hospital in Boston, Mass.

African-Americans have higher rates of [hypertension](#) and lower levels of circulating 25-hydroxyvitamin D ([vitamin D3](#) or cholecalciferol) than the rest of the U.S. population. Few studies have included enough African-Americans to determine whether vitamin D supplements might

reduce the racial disparity.

To explore this, researchers from seven major [teaching hospitals](#) conducted a four-arm, randomized, double-blinded study of 250 black adults. They tested blood pressure after a three-month regimen of daily vitamin D supplementation at one of three doses, and compared the findings with a group taking placebo vitamins:

- Taking 1,000 units of vitamin D each day for three months was associated with a .7 mm Hg decrease in systolic blood pressure.
- Taking 2,000 units was linked to a 3.4 mm Hg decrease.
- Taking 4,000 units netted a 4 mm Hg drop.
- Participants taking placebo supplements had an average increase of 1.7 mm Hg.

"The gains we saw were significant but modest," Forman said.

Furthermore, diastolic blood pressure didn't change in any of the four groups. In prospective studies, lower blood levels of 25-hydroxyvitamin D have been independently linked with an increased risk of developing hypertension.

"If vitamin D supplementation lowered blood pressure among African-Americans, its widespread use could have major public health benefits," said Andrew T. Chan, M.D., M.P.H., co-author of the study and Assistant Professor of Medicine in the Division of Gastroenterology at Massachusetts General Hospital.

Provided by American Heart Association

Citation: Vitamin D supplements may help African Americans lower blood pressure (2013,

March 13) retrieved 19 April 2024 from <https://medicalxpress.com/news/2013-03-vitamin-d-supplements-african-americans.html>

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