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Lower Vitamin D Level in Blood Linked to Higher Premature Death Rate

Researchers at the University of California, San Diego School of Medicine have found that persons with lower blood levels of vitamin D were twice as likely to die prematurely as people with higher blood levels of vitamin D.

The finding, published in the June 12 issue of *American Journal of Public Health*, was based on a systematic review of 32 previous studies that included analyses of vitamin D, blood levels and human mortality rates. The specific variant of vitamin D assessed was 25-hydroxyvitamin D, the primary form found in blood.

“Three years ago, the Institute of Medicine (IOM) concluded that having a too-low blood level of vitamin D was hazardous,” said Cedric Garland, DrPH, professor in the Department of Family and Preventive Medicine at UC San Diego and lead author of the study. “This study supports that conclusion, but goes one step further. The 20 nanograms per milliliter (ng/ml) blood level cutoff assumed from the IOM report was based solely on the association of low vitamin D with risk of bone disease. This new finding is based on the association of low vitamin D with risk of premature death from all causes, not just bone diseases.”

Garland said the blood level amount of vitamin D associated with about half of the death rate was 30 ng/ml. He noted that two-thirds of the U.S. population has an estimated blood vitamin D level below 30 ng/ml.

“This study should give the medical community and public substantial reassurance that vitamin D is safe when used in appropriate doses up to 4,000 International Units (IU) per day,” said Heather Hofflich, DO, professor in the UC San Diego School of Medicine’s Department of Medicine.

“However, it’s always wise to consult your physician when changing your intake of vitamin D and to have your blood level of 25-hydroxyvitamin D checked annually. Daily intakes above 4,000 IU per day may be appropriate for some patients under medical supervision.”

The average age when the blood was drawn in this study was 55 years; the average length of follow-up was nine years. The study included residents of 14 countries, including the United States, and data from 566,583 participants.

Co-authors include June Kim, Sharif B. Mohr, Edward D. Gorham and Kenneth Zeng, UCSD Department of Family and Preventive Medicine; Joe Ramsdell, UCSD Department of Medicine; William B. Grant, Sunlight and Nutrition Research Center; Edward L. Giovannucci, Harvard School of Public Health; Leo Baggerly, GrassrootsHealth; and Robert P. Heaney, Creighton University School of Medicine.

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MEDIA CONTACT

Scott LaFee, 858-249-0456, slafee@ucsd.edu

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