

Vitamin D levels associated with age-related macular degeneration

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Women under the age of 75 with high vitamin D status were less likely to have early age-related macular degeneration (AMD), the leading cause of irreversible vision loss in adults, a University at Buffalo study has shown. The disease affects approximately 9 percent of Americans aged 40 and older.

The paper is published in the April issue of "*Archives of Ophthalmology*," one of the JAMA/Archives journals.

Vitamin D status was assessed using the blood measure of 25-hydroxyvitamin D or 25 (OH) D. The 25 (OH) D level is generally considered the means by which nutritional vitamin D status is defined.

"In women younger than 75, those who had 25-hydroxyvitamin D concentrations lower than 38 nanomoles per liter were more likely to have age-related macular degeneration than women with concentrations greater than 38 nanomoles per liter," says Amy E. Millen, PhD, assistant professor in the UB School of Public Health and Health Professions and lead author. "Blood concentrations above 38 nanomoles per liter were associated with at least a 44 percent decreased odds of having AMD."

She notes that the Institute of Medicine considers an adult with a blood 25 hydroxyvitamin D concentration of lower than 30 nanomoles per liter to be at increased risk of [vitamin D deficiency](#) and a person with a concentration of less than 50 nanomoles per liter to be at increased risk for vitamin D inadequacy.

Millen's "Carotenoids in Age-Related [Eye Disease](#) Study (CAREDS)" involved data from 1,313 women. The purpose of the study was to investigate if serum 25 hydroxyvitamin D levels in the blood, the preferred [biomarker](#) for vitamin D, were associated with early age-related macular degeneration. CAREDS is an ancillary study within the Women's Health Initiative (WHI) Observational Study, which was conducted at WHI clinic centers in Oregon, Iowa and Wisconsin. UB is a major participating center in the WHI.

"The take-home message from this study is that having very low vitamin D status (25-hydroxyvitamin D blood concentrations lower than 38 nanomoles per liter) may be associated with increasing your odds of developing age-related [macular degeneration](#)," says Millen. "But based on these study findings, being at a higher vitamin D level than 38 nanomoles per liter does not appear to be more protective," she cautions.

Vitamin D status may be increased by spending moderate amounts of time outside, and eating foods rich in vitamin D, such as fatty fish from cold waters, and foods fortified with vitamin D, such as milk and fortified cereal, or by taking supplements.

"This is a promising study, but more still needs to be done," says Millen. "We still don't understand all of the effects of Vitamin D on health."

Provided by University at Buffalo

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