

# Low blood levels of vitamin D may be associated with depression in older adults

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Older adults with low blood levels of vitamin D and high blood levels of a hormone secreted by the parathyroid glands may have a higher risk of depression, according to a report in the May issue of *Archives of General Psychiatry*.

About 13 percent of older individuals have symptoms of depression, and other researchers have speculated that vitamin D may be linked to depression and other psychiatric illnesses, according to background information in the article.

“Underlying causes of vitamin D deficiency such as less sun exposure as a result of decreased outdoor activity, different housing or clothing habits and decreased vitamin intake may be secondary to depression, but depression may also be the consequence of poor vitamin D status,” the authors write.

“Moreover, poor vitamin D status causes an increase in serum parathyroid hormone levels.” Overactive parathyroid glands are frequently accompanied by symptoms of depression that disappear after treatment of the condition.

Witte J. G. Hoogendijk, M.D., Ph.D., and colleagues at VU University Medical Center, Vrije Universiteit Amsterdam, the Netherlands, measured blood levels of vitamin D and parathyroid hormone and assessed symptoms of depression among 1,282 community residents age 65 to 95. Of those individuals, 26 had a diagnosis of major depressive

disorder, 169 had minor depression and 1,087 were not depressed. The average blood vitamin D level was 21 nanograms per milliliter and the average parathyroid hormone level was 3.6 picograms per milliliter.

Blood vitamin D levels were 14 percent lower in individuals with major and minor depression (average, 19 nanograms per milliliter) compared with non-depressed participants (average, 22 nanograms per milliliter). In addition, parathyroid hormone thyroid levels were an average of 5 percent higher in those with minor depression (average, 3.72 picograms per milliliter) and 33 percent higher in those with major depressive disorder (average, 4.69 picograms per milliliter) than in those who were not depressed (average, 3.53 picograms per milliliter).

The findings may be important to patients because both low blood vitamin D levels and high parathyroid hormone levels can be treated with higher dietary intake of vitamin D or calcium and increased sunlight exposure. “Moreover, the clinical relevance of the present study is underscored by our finding that 38.8 percent of men and 56.9 percent of women in our community-based cohort had an insufficient vitamin D status,” they conclude. Additional studies are needed to determine whether changes in levels of vitamin D and parathyroid hormone precede depression or follow it.

Source: JAMA and Archives Journals

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