

# Response to vitamin D and depression in geriatric primary care patients

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## Dear editor

Lapid et al recently published an interesting article in *Clinical Interventions in Aging* entitled: “Vitamin D and depression in geriatric primary care patients”.<sup>1</sup> Their conclusion that “lower vitamin D levels were associated with depression” was based on a study that analyzed the patients in primary care internal medicine “who had at least one total serum 25-hydroxyvitamin D [25(OH)D] level from 2004–2008. For those with multiple serum 25(OH)D measurements, authors used the index of first measurements”.<sup>1</sup>

25-hydroxyvitamin D is the major circulating form of vitamin D that has a half-life of approximately 2–3 weeks.<sup>2</sup> Adams et al showed that the rate at which 25(OH)D declined among people who have taken high amounts of vitamin D supplements and subsequently abstained from supplements, is approximately  $10.7 \pm 3.0$  nmol/L per month.<sup>3</sup> Therefore, diverse transitory disorders, occurring about once a month before the time of the first serum 25(OH)D measurement, can modify total vitamin D concentration. For example:

1. Patients on medications affecting vitamin D metabolism, eg, antibiotics – erythromycin, clotrimazole, rifampicin; antiretroviral drugs – ritonavir, saquinavir, histamine H<sub>2</sub>-receptor antagonist – cimetidine, aldosterone receptor antagonists – spironolactone, or current steroid therapy.<sup>4</sup>
2. Acute diseases of different etiology (eg, infectious, gastrointestinal upset, hepatic impairment, or serious allergic reactions), and surgical treatment.<sup>5</sup>
3. A sudden change in lifestyle such as limitation of daily physical activity, a change in diet and nutrition (including the number of meals per day), alcohol or medicinal product abuse.<sup>6</sup>

Although the authors point out that this was a retrospective cross-sectional study among “geriatric patients seen in the primary care setting”,<sup>1</sup> in our opinion, it would be necessary to complete the data of patients (such as medical history, physical examination). This data should be used for choosing the proper study group.

## Disclosure

The authors report no conflicts of interest in this work.

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## Authors' reply

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### Dear editor

Our cross-sectional study has limitations, which include use of available vitamin D data from the electronic medical records, which does not allow capturing transient changes to

vitamin D levels. The clinical diagnosis of depression often by primary care physicians is another limitation, as well as the lack of symptom burden (for example, as measured by instruments such as the PHQ-9) at the time vitamin D levels were drawn. The study was conducted to raise awareness of this potential association between Vitamin D levels and depression. Clinically, if patients have depression, one must wonder if there is concurrent vitamin D deficiency. The definitive next step is to evaluate vitamin D levels in depressed patients and to add either vitamin D or placebo in a clinical trial.

### Disclosure

The authors report no conflicts of interest in this communication.

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