

Vitamin D is not linked to low blood pressure in older adults

8 August 2019



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Researchers from The Irish Longitudinal Study on Ageing (TILDA) at Trinity College have shown in the largest study to-date that vitamin D is not associated with low blood pressure on standing (orthostatic hypotension) in older adults. Their findings have been published recently in the prestigious journal *Hypertension*.

Orthostatic hypotension (OH) is a common chronic condition estimated to affect over 30% of older adults. It is characterized as a significant drop in blood pressure upon standing and has been associated with falls, fractures and mortality. Recent research has suggested that vitamin D may have benefits for this condition. Vitamin D is essential for bone metabolism and is thought to have beneficial health effects for [muscle strength](#) and health. High levels of vitamin D deficiency exist in the older Irish population with 1 in 8 deficient and 1 in 4 deficient during the winter period due to the lack of any food fortification policy in Ireland.

The TILDA researchers' paper examined the association of vitamin D status and vitamin D

supplement intake with the prevalence of OH.

Lead author of the study and Research Fellow at TILDA, Dr. Eamon Laird, said: "This is the largest ever study exploring vitamin D and orthostatic hypotension. In the older Irish population we see no association. This is important as it is essential to know what is and is not associated with vitamin D when trying to devise and recommend intakes for the population based on health outcomes. Recently vitamin D has been seen as the cure-all health panacea; however it makes perfect biological sense that it cannot be associated with everything."

Key findings of the study:

- Older adults with vitamin D deficiency were more likely to be smokers, take high blood pressure medication and have higher levels of cardiovascular disorders compared to those with sufficient vitamin D status.
- Those with low vitamin D status were no more likely to have OH than those with normal vitamin D levels.
- Vitamin D supplement use was not associated with OH.

Principal Investigator of TILDA, Professor Rose-Anne Kenny said: "Although we have seen no association, the usefulness of vitamin D in the management and possibly the prevention of OH cannot be dismissed. For example, those with OH are more likely to fall and also sustain fractures and the strongest evidence for the health benefits for vitamin D exists for bone health and muscle function. Thus, checking vitamin D levels and optimising vitamin D status for bone health and muscle function is important in this high risk group."

Co-author of the study Dr. Triona McNicholas said "Our study found no increased risk of OH with higher concentrations of 25(OH)D or with vitamin D supplementation. Thus the achievement of optimal vitamin D status in this patient cohort could have

benefits for muscle, bone and falls without an adverse consequence for blood pressure."

More information: Eamon J. Laird et al. Vitamin D Status Is Not Associated With Orthostatic Hypotension in Older Adults, *Hypertension* (2019).
[DOI: 10.1161/HYPERTENSIONAHA.119.13064](https://doi.org/10.1161/HYPERTENSIONAHA.119.13064)

Provided by Trinity College Dublin

APA citation: Vitamin D is not linked to low blood pressure in older adults (2019, August 8) retrieved 27 July 2022 from <https://medicalxpress.com/news/2019-08-vitamin-d-linked-blood-pressure.html>

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