

Taking vitamin D could help prevent dementia, study finds

University of Calgary launches national research project to discover more insights to protect the brain while we age

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Researchers explored the relationship between a common health supplement and dementia in more than 12,000 participants.
📍 Riley Brandt, University of Calgary

Researchers at the University of Calgary’s Hotchkiss Brain Institute and the University of Exeter in the United Kingdom explored the relationship between vitamin D supplementation and dementia in more than 12,000 participants and found that people who reported taking vitamin D supplements may have a lower risk of dementia.

“We know that vitamin D has some effects in the brain that could have implications for reducing dementia; however, so far, research has yielded conflicting results. Our findings give key insights into groups who might be specifically targeted in future studies of vitamin D supplementation,” says Dr. Zahinoor Ismail, MD, professor at the Cumming School of Medicine and the University of Exeter, and principal investigator.

Overall, we found evidence to suggest that earlier supplementation might be particularly beneficial, before the onset of cognitive decline.


While vitamin D showed promise in all groups, the team found the associations with lower rates of development of dementia were significantly greater in females, compared to males, and also greater in people with normal cognition, compared to those who reported signs of mild cognitive impairment — changes to cognition which have been linked to a higher risk of dementia.

“Preventing dementia or even delaying its onset is vitally important given the growing numbers of people affected,” says Dr. Byron Creese, PhD, associate professor at the University of Exeter, and co-author.

“The link with vitamin D in this study suggests that taking vitamin D supplements may be beneficial in preventing or delaying dementia, but we now need clinical trials to confirm whether this is really the case.”



Principal investigator Zahinoor Ismail.

 Riley Brandt, University of Calgary

As this wasn't a clinical trial, the doses people were taking is unknown. However, Ismail says anyone considering a supplement should follow Health Canada's [recommended guidelines for vitamin D \(Link: <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/vitamins-minerals/vitamin-calcium-updated-dietary-reference-intakes-nutrition.html#a10>\)](https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/vitamins-minerals/vitamin-calcium-updated-dietary-reference-intakes-nutrition.html#a10). Findings of this study, published in *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, are being tested in the VitaMIND study run through PROTECT (Link: <https://www.protectstudy.org.uk/>), an online study based at the University of Exeter.

In PROTECT, annual questionnaires on detailed lifestyle factors combine with cognitive testing, to determine what keeps the brain sharp in later life. Now there's a chance for Canadians to be part of related research to reveal insights about our brains as we age. The University of Calgary has just launched [CAN-PROTECT \(Link: <https://www.can-protect.ca/>\)](https://www.can-protect.ca/), based on the U.K. platform.

Comprehensive national study to begin

“CAN-PROTECT is a comprehensive national study that will provide invaluable information on which risk factors, alone or in combination, are the best targets for dementia prevention,” says Ismail.

“We're hoping to recruit a diverse sample of 10,000 people throughout the country, including participants and their study partner, who is somebody that knows them well.”

The researchers say by combining information from a participant and their study partner they may potentially identify signs of brain aging earlier.

An important sub-component of CAN-PROTECT was developed specifically for those who are caregivers and care partners of people with cognitive disorders like Alzheimer's disease and related dementias. There is little evidence on the long-term experience of individuals who care for people with dementia, and how their brains age.

Call for all kinds of participants

While anyone aged 40 and over can join CAN-PROTECT, there are additional questionnaires developed specifically for caregivers, including friends and family caregivers, but also professional caregivers like nurses, physicians, care aides or other allied health professionals.

"Dementia prevention starts early in life. We build brain reserve from physical activity, schooling, and learning a musical instrument or a second language. In mid and late life, we still focus on exercising our brain to maintain connections, but we also explore modifiable risk factors like lifestyle, diet, exercise, and use of vitamin D supplements," says Ismail.

About participants in current study

Participants in this study were part of the U.S. National Alzheimer's Coordinating Center. They had a average age of 71 and were dementia free when they signed up for the study. Of the group, 37 per cent (4,637) took vitamin D supplements.

The UK VitaMIND study is supported by the National Institute for Health and Care Research Exeter Biomedical Research Centre. Zahinoor Ismail is supported by the Canadian Institutes of Health Research, and CAN-PROTECT is funded by the [Gordie Howe CARES \(Link: https://www.gordiehowecares.com/\)](https://www.gordiehowecares.com/). [Learn more about the study \(Link: https://www.can-protect.ca/\)](https://www.can-protect.ca/) at www.can-protect.ca ([Link: http://www.can-protect.ca](http://www.can-protect.ca)).

Brain and Mental Health Strategy (BMH)

Led by the Hotchkiss Brain Institute at the University of Calgary, the BMH Strategy explores an improved understanding of the brain and nervous system and new treatments for neurological and mental health disorders, aimed at improving quality of life and patient care. [Learn more about the HBI \(Link: https://hbi.ucalgary.ca/\)](https://hbi.ucalgary.ca/).

About the University of Exeter

The [University of Exeter \(Link: https://www.exeter.ac.uk/\)](https://www.exeter.ac.uk/) is a Russell Group university that combines world-class research with high levels of student satisfaction. Exeter has over 30,000 students and sits within the Top 15 universities in The Guardian University Guide 2023, and in the top 150 globally in both the QS World Rankings 2022 and THE World University Rankings 2023. In the 2021 Research Excellence Framework (REF), more than 99 per cent of our research was rated as being of international quality, and our world-leading research impact has grown by 72 per cent since 2014, more than any other Russell Group university.

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