Daily omega-3 supplements and regular exercise may slow aging

Written by Paul Ian Cross, PhD on February 7, 2025 — Fact checked by Kelsey Costa, MS, RDN

Could daily omega-3 supplementation help slow down biological aging processes? Image credit: Tatiana Lavrova/Getty Images.

- **A new study suggests that omega-3 and vitamin D supplements, when combined with regular exercise, may help slow biological aging by several months over a 3-year period.**
- **Researchers analysed data from the DO-HEALTH trial, which tracked over 700 older adults and found that those who followed this regimen experienced measurable benefits at the molecular level.**
- **The researchers said that even though the effects might seem small, they could still make a big difference for public health — helping to lower the risk of age-related health issues and improving the well-being of older adults.**

According to new research, regularly taking omega-3 and vitamin D supplements can support health and mitigate aging-related issues.

In the study published in *Nature Aging*, researchers reported that taking these supplements over 3 years slowed biological aging by 3 to 4 months, with even greater effects observed when combined with exercise.

They explained that biological aging happens at the molecular level, so even if two people are the same age, their bodies may age at different speeds depending on their overall health.

Although a reduction of a few months in biological aging may seem modest, the researchers said this could have meaningful public health benefits, including a lower prevalence of certain age-related conditions.

The researchers analysed data from the DO-HEALTH trial, which examined the impact of supplements and exercise on older adults across five European countries between 2012 and 2014.

They reviewed information from over 700 participants aged 70 and older, who were assigned either a placebo or omega-3, vitamin D, and exercise alone or in combination.

All participants were based in Switzerland, and approximately half were in good health, without major chronic illnesses or disabilities.

Biological aging assessed via 4 biological clocks

To assess biological aging, blood samples were collected at the beginning and end of the study and analysed using four biological clocks.

First author Heike A. Bischoff-Ferrari, MD, MPH, DrPH from the University of Basel Department of Aging Medicine FELIX PLATTER, and the University of Zurich's Department of Geriatrics and Aging Research, Switzerland, explained the key findings to *Medical News Today*.

"In our prior studies in the same trial (DO-HEALTH) of generally healthy adults age 70 and older, we found omega-3 lowered the rate of falls by 10% and reduced the rate of infections by up to 13%, while omega-3, vitamin D and exercise combined lowered the risk of pre-frailty by 39% and invasive cancer by 61%," Bischoff-Ferrari told us.

"Given these health benefits, we explored whether these treatments also translated to slowing of biological aging. For this we studied the most reliable molecular markers of biological age: epigenetic clocks," she told us.

> "Our findings provide a strong signal that omega-3 supplementation (1 [gram per day] algae-based) slows biological aging in humans, and that the combination vitamin D and exercise may make this effect even stronger. Biological age was slowed by 3-4 months in 3 years."
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> – Heike A. Bischoff-Ferrari, MD, MPH, DrPH