

Clinical trial reveals that omega-3 fish oil supplements do not help prevent depression

December 21 2021



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Results from the largest clinical trial of its kind do not support the use of fish oil supplements—a source of omega-3 fatty acid—to help prevent depression. The findings are published in *JAMA* by a team led by

investigators at Massachusetts General Hospital (MGH) and Brigham and Women's Hospital (BWH).

Experts have recommended [omega-3 supplements](#) for reducing the recurrence of depression in some high-risk patients, but there are no guidelines related to the use of these supplements for preventing depression in the general population. Also, studies on this topic have generated mixed results.

To provide clarity, the Vitamin D and Omega-3 Trial-Depression Endpoint Prevention (VITAL-DEP) was designed to test the potential of daily vitamin D and/or omega-3 supplements for preventing depression. A total of 18,353 adults aged 50 years or older without depression at the start of the trial were randomized to receive vitamin D and/or omega-3 supplements or matching placebos for a median of 5.3 years.

"This study is a significant step. It requires many thousands of people to conduct this type of study of preventing depression in adults—something we call universal prevention—and the participants were taking randomized study pills for between 5 to 7 years on average," says VITAL-DEP lead investigator and lead author Olivia I. Okereke, MD, MS, director of geriatric psychiatry at MGH and an associate professor of psychiatry at Harvard Medical School. "So, it is rare to see a long-term randomized trial of this kind."

Okereke and her colleagues observed no net benefit of omega-3 supplements for preventing depression or boosting mood over the course of the study. Equal attention was given to risk of developing a clinical depression at any point and to overall mood scores for the duration of follow-up. While a small increase in risk of a depression was inside the statistical margin of significance, Okereke says "there was no harmful or beneficial effect of omega-3 on overall course of mood during the roughly 5 to 7 years of follow-up."

"There are still health reasons for some people, under the guidance of their health care providers, to take omega-3 fish oil supplements. For example, these supplements increasingly have been found to have benefits for cardiac disease prevention and treatment of inflammatory conditions, in addition to being used for management of existing depressive disorders in some [high-risk patients](#)," says senior author JoAnn E. Manson, MD, DrPH, chief of the Division of Preventive Medicine at BWH, a professor of medicine at Harvard Medical School, and director of the parent VITAL trial. "However, our findings indicate there is no reason for adults without depression in the general population to take fish oil supplements solely for the purpose of preventing [depression](#) or for maintaining a positive mood."

More information: Olivia I. Okereke et al, Effect of Long-term Supplementation With Marine Omega-3 Fatty Acids vs Placebo on Risk of Depression or Clinically Relevant Depressive Symptoms and on Change in Mood Scores, *JAMA* (2021). [DOI: 10.1001/jama.2021.21187](https://doi.org/10.1001/jama.2021.21187)

Provided by Massachusetts General Hospital

Citation: Clinical trial reveals that omega-3 fish oil supplements do not help prevent depression (2021, December 21) retrieved 27 April 2024 from <https://medicalxpress.com/news/2021-12-clinical-trial-reveals-omega-fish.html>

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