

Regular fish oil supplement use might increase first-time heart disease and stroke risk

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Regular use of fish oil supplements might increase—rather than lessen—the risk of first-time heart disease and stroke among those in

good cardiovascular health, but may slow progression of existing poor cardiovascular health and lower the risk of death, suggest the results of a large long-term study, published in *BMJ Medicine*.

Fish oil is a rich source of omega 3 fatty acids, and as such, is recommended as a dietary preventive to ward off the development of cardiovascular disease. But the evidence on how much protection it affords is inconclusive, explain the researchers.

To strengthen the [evidence base](#), they set out to estimate the associations between fish oil supplements and new cases of [atrial fibrillation](#); heart attack, stroke, and heart failure; and death from any cause in those with no known cardiovascular disease.

They assessed the potential role of these supplements on the risk of progressing from good heart health (primary stage), to atrial fibrillation (secondary stage), to major cardiovascular events, such as a heart attack (tertiary stage), and death (end stage).

They drew on 415,737 UK Biobank study participants (55% women), aged 40–69, who were surveyed between 2006 and 2010 to gather basic background information. This included their usual dietary intake of oily and non-oily fish and fish oil supplements.

The participants' health was tracked until the end of March 2021 or death, whichever came first, using medical records data.

Nearly a third (130,365; 31.5%) of the participants said they regularly used fish oil supplements. This group included higher proportions of older and white people, and women. Alcohol intake and the ratio of oily to non-oily fish eaten were also higher, while the proportions of current smokers and those living in deprived areas were lower.

During an average monitoring period of nearly 12 years, 18,367 participants developed atrial fibrillation, 22,636 had a heart attack/stroke or developed heart failure, and 22,140 died—14,902 without atrial fibrillation or serious cardiovascular disease.

Among those who progressed from good cardiovascular health to atrial fibrillation, 3,085 developed heart failure, 1,180 had a stroke, and 1,415 a heart attack. And 2,436 of those with heart failure died, as did 2,088 of those who had had a stroke, and 2,098 of those who had had a heart attack.

Regular use of fish oil supplements had different roles in cardiovascular health, [disease progression](#), and death, the findings indicated.

For those with no known cardiovascular disease at the start of the monitoring period, regular use of fish oil supplements was associated with a 13% heightened risk of developing atrial fibrillation and a 5% heightened risk of having a stroke.

But among those who had cardiovascular disease at the start of the monitoring period, regular use of fish oil supplements was associated with a 15% lower risk of progressing from atrial fibrillation to a heart attack, and a 9% lower risk of progressing from heart failure to death.

Further in-depth analysis revealed that age, sex, smoking, consumption of non-oily fish, [high blood pressure](#), and use of statins and blood pressure-lowering drugs changed the associations observed.

Regular use of fish oil supplements and the risk of transitioning from good health to [heart attack](#), stroke, or [heart failure](#) was 6% higher in women and 6% higher in non-smokers. The protective effect of these supplements on the transition from good health to death was greater in men (7% lower risk) and older participants (11% lower risk).

As this is an [observational study](#), no conclusions can be drawn about causal factors, acknowledge the researchers. No potentially influential information was available on either dose or formulation of the fish oil supplements. And given that most of the participants were white, the findings might not be applicable to people of other ethnicities, the researchers add.

But they conclude, "Regular use of fish oil supplements might have different roles in the progression of cardiovascular disease. Further studies are needed to determine the precise mechanisms for the development and prognosis of cardiovascular disease events with regular use of [fish oil supplements](#)."

More information: Regular use of fish oil supplements and course of cardiovascular diseases: prospective cohort study, *BMJ Medicine* (2024). [DOI: 10.1136/bmjmed-2022-000451](https://doi.org/10.1136/bmjmed-2022-000451)

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