

Fishy Theory

Are omega-3 supplements actually good for your brain? Dana G. Smith asks the experts

In theory, taking an omega-3 or fish oil supplement makes a lot of sense. But there's a catch, the vast majority of clinical trials have found that omega-3 supplements offer virtually no benefit for cognition or dementia symptoms.

"It kind of intuitively makes sense" that neurons need fatty acids for their health, so you should take a fatty acid supplement, said Dr Kristine Yaffe, a professor of psychiatry, neurology and epidemiology at the University of California, San Francisco, US. "The problem is that most of the evidence, particularly the trial evidence, just doesn't support it at all," she said.

A study published last month offers a prime example. The scientists who ran the clinical trial tried to cover all their bases. The participants were older adults who didn't eat a lot of fish (which is rich in omega-3s), suggesting they might benefit the most from a supplement. Roughly half of the participants had an increased genetic risk for Alzheimer's disease, which is another group that experts think might need more omega-3s. The researchers even did lumbar punctures on some of the participants to confirm that the supplement caused omega-3 levels in the brain to go up.

But compared with a placebo, the supplement didn't result in any benefit when it came to people's cognition or brain structure.

So what's behind the disconnect? Scientists have a few hypotheses.

Hypothesis 1

Most people already get enough omega-3s. There are three main types of omega-3s that are important for health: EPA and DHA, which are primarily found in fish, and ALA, which is in nuts and seeds. The liver can convert small amounts of ALA into EPA and DHA.

DHA is the most vital for cognition and there's a large reserve of it in our brains. According to Richard Bazinet, a professor of nutritional sciences at the University of Toronto, Canada, the amount of DHA our brains use every day is just a tiny fraction of that reserve.



Even if people don't eat a lot of fish, Bazinet thinks they still probably get enough omega-3s through their diet, particularly from ALA, to replace the small amount of DHA the brain uses.

In Bazinet's mind, since virtually everyone gets enough omega-3s from their diet, the brain benefits that scientists see in people who have high blood levels of DHA are probably caused by something besides omega-3s — most likely from other healthy habits that tend to come with eating a diet rich in fish.

For example, when someone has fish for dinner, they will typically pair it with vegetables, not junk food.

Hypothesis 2

It's how you metabolise omega-3s that really matters. Dr Hussein Yassine, a professor of neurology at the University of Southern California's Keck School of Medicine in the US, thinks it is how the brain uses omega-3s that matters most.

In the brain, there is a molecule that breaks down and gets rid of omega-3s. Everyone has this molecule, but Dr Yassine has found that it is more active in people with a genetic risk for Alzheimer's disease. It's possible that their brains metabolise omega-3s more quickly, depleting the levels.

To improve brain health, Dr

DIET CURE: South Korean and Japanese cuisines are exceptionally high in omega-3s because of the amount of seafood they include. Numerous studies have shown that people with higher levels of omega-3s in their blood have better cognition as well as a lower risk of developing dementia.

Photos sourced by The Telegraph

Yassine thinks some people need not only to increase their omega-3 intake but also to decrease the activity of that other molecule. Research is preliminary, but there's some evidence that this molecule is affected by the gut microbiome and is less active in people who have a diet rich in plants, fibre and fermented foods. In other words, to benefit the brain, you need the nutrients from the tuna as well as those from the salad or other healthy side dishes.

Hypothesis 3

To see benefits, you need to consume large amounts of omega-3s for decades. Not everyone is giving up on omega-3 supplements. Gene Bowman, an assistant professor of neurology at Harvard Medical School, US, thinks one reason that clinical trials tend to fail is because they only test supplements for a few years, and that may not be enough time to detect changes in the brain. When people have high blood

levels of omega-3s, it's typically because they've eaten foods rich in omega-3s — by some estimates three weekly servings of fish — for decades.

"I think the reason for the disconnect or inconsistency, one explanation could be strictly methodological," Bowman said.

Regardless of the reason for why omega-3 supplements seem to fall short, the current research suggests it is a balanced diet rather than a pill that can help keep your brain healthy. The same is also likely true for heart health, the other reason many people take an omega-3 supplement.

"The best evidence, as limited as it might be, is that eating foods with omega-3s seems to be a good thing and correlates with better brain outcomes," Bazinet said. "But taking the shortcut with the supplements" doesn't seem to show the same benefit.

NEW YORK TIMES
NEWS SERVICE