

Health News from 3Care Therapeutics

Omega-3s Show Heart Benefits for Non-Fish Eaters

Increased intakes of omega-3 fatty acids may decrease the risk of heart disease and heart attack in people with low fish intakes, says a new study from The Netherlands.

Daily intakes of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) of about 240 milligrams was associated with a 50 per cent reduction in the risk of coronary heart disease (CHD), compared with intakes of about 40 milligrams, according to findings published in the *Journal of Nutrition*.

Furthermore, the highest average intake of DHA and EPA was associated with a 38 per cent reduction in the heart attack, said researchers from Wageningen University following a study with over 21,000 people with low fish intakes.

The heart health benefits of consuming oily fish, and the omega-3 fatty acids they contain, are well-documented, being first reported in the early 1970s by Jorn Dyerberg and his co-workers in *The Lancet* and *The American Journal of Clinical Nutrition*. To date, the polyunsaturated fatty acids (PUFAs) have been linked to improvements in blood lipid levels, a reduced tendency of thrombosis, blood pressure and heart rate improvements, and improved vascular function.

Intakes of EPA plus DHA, and fish were assessed in 21,342 people aged between 20 and 65. Fish intakes ranged from 1.1 to 17.3 grams per day. Over the course of an average of 11.3 years, the researchers documented 647 deaths, of which 82 were linked to coronary heart disease, with 64 of these being heart attack. According to the results, the highest average intake of EPA plus DHA (234 milligrams per day) was associated with a 51 per cent reduction in the risk of fatal CHD, compared to the lowest average intake (40 mg per day).

“In conclusion, in populations with low fish consumption, EPA+DHA and fish may lower fatal CHD and [heart attack] risk in a dose-responsive manner,” wrote the researchers. Benefiting from omega-3-containing supplements has never been easier: Omega-3 is one of the nutrition industry’s major successes, with the ingredients market valued at a whopping \$1.6 billion by Frost & Sullivan.

Source: Journal of Nutrition

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“Marine (n-3) Fatty Acids, Fish Consumption, and the 10-Year Risk of Fatal and Nonfatal Coronary Heart Disease in a Large Population of Dutch Adults with a Low Fish Intake”

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Higher levels of DHA Improves Cognitive Function in Middle Aged Men and Women

The April 2010 issue of the *Journal of Nutrition* reported the discovery by researchers at the University of Pittsburgh of an association between higher levels of the omega-3 polyunsaturated fatty acid docosahexaenoic acid (DHA) and improved cognitive performance in middle-aged adults. Docosahexaenoic acid, along with eicosapentaenoic acid (EPA), is found in oily fish, which has been associated with numerous benefits when included as part of a healthy diet.

In the introduction to their article, Matthew F. Muldoon and colleagues remark that omega-3 fatty acids' effects on early brain development and late life cognitive function have been studied, although the mechanisms of action remain unclear. They note that two trials found no effects for an omega-3 fatty acid supplement in patients with dementia, yet benefits were observed in older individuals with normal and near-normal cognitive functioning, suggesting that omega-3 fatty acids could have a greater impact on cognitive performance in general than on dementia.

The current study sought to determine the effects of omega-3 fatty acids on cognitive function in middle aged adults who were free of cardiovascular, neurologic or psychiatric disorders. Two hundred eighty men and women between the ages of 30 and 54 were tested on nonverbal reasoning and mental flexibility, attention and concentration, general memory, working memory and verbal knowledge and processing. Blood samples were analyzed for serum phospholipid levels of the omega-3 fatty acids alpha-linolenic acid (ALA), EPA and DHA.

Adjusted analysis of the data uncovered an association between higher levels of DHA and improved test scores in the areas of nonverbal reasoning and mental flexibility, working memory, and vocabulary. No significant associations were found between test scores and ALA or EPA levels.

In their discussion of omega-3 fatty acids' effects on the brain, the authors remark that "it is plausible that insufficient dietary intake is related to relatively poor cognitive abilities or performance throughout the lifespan and that such effects are attributable specifically to DHA." They note that DHA is the predominant omega-3 fatty acid in the brain, and that this fatty acid, in particular, increases cell viability through neuroprotective and antiapoptotic mechanisms while promoting the growth of dendrites and synapses. Although EPA was not found to be associated with cognitive function in the current study, intake of this omega-3 fatty acid has been associated with improvements in mood and impulsivity in other studies, which could suggest a greater role for EPA as a precursor to anti-inflammatory eicosanoids, in contrast with DHA's greater involvement in neuroprotection and as a modulator of oxidative stress and membrane function.

"These findings suggest that DHA is related to brain health throughout the lifespan and may have implications for clinical trials of neuropsychiatric disorders," the authors conclude.