

Cognitive function & fat intake

PARIS, FRANCE. Several epidemiological studies have shown that a high dietary intake of linoleic acid and a low intake of fish oils (eicosapentaenoic acid [EPA] and docosahexaenoic acid [DHA]) are associated with cognitive impairment and an increased risk of dementia. French researchers now report that the fatty acid composition in erythrocytes (red blood cells) is an indicator of the risk of cognitive function decline (ability to learn, think and remember). Their study involved 246 men and women (aged 63 to 74 years) who had the lipid (fatty acid) composition of their erythrocytes analyzed in 1995. All participants also underwent tests to determine their cognitive function at baseline and after a 4-year follow-up period. The researchers found that study participants with high erythrocyte levels of stearic acid (a saturated fatty acid) had a 91% higher risk of having experienced a significant decline in cognitive function over the 4 years than did participants with average levels. Participants with high levels of linoleic acid (an unsaturated omega-6 acid) had a 59% increased risk of decline while those with high levels of EPA and DHA had a 41% lower risk of experiencing cognitive decline than did those with normal levels.

The researchers suggest that the omega-3 fatty acids EPA and especially DHA help keep the membranes of brain cells more fluid while saturated and omega-6 fatty acids tend to "harden" them. They believe this and the anti-inflammatory effects of EPA and DHA are what help preserve cognitive function.

Heude, Barbara, et al. Cognitive decline and fatty acid composition of erythrocyte membranes - The EVA Study. American Journal of Clinical Nutrition, Vol. 77, April 2003, pp. 803-08

Editor's Comment: Stearic acid is found in high quantities in beef, mutton, and pork while omega-6 fatty acids are abundant in vegetable oils such as safflower, sunflower, and soybean oil. The long-chain omega-3 fatty acids (EPA and DHA) are found in fatty fish and fish oils.

Fish oils: A cure for depression?

WASHINGTON, DC. On a worldwide basis more working days are lost to depression than to any other illness. The incidence of depression is growing with people born within the last 50 years being twice as likely to suffer from it than were their parents. Dr. Joseph Hibbeln of the National Institutes of Health believes that the reason for the increase in depression can be directly attributed to a major shift in dietary patterns, specifically fat intake. He points out that the vast increase in the use of soy, corn, palm and cottonseed oils in the last 100 years has totally changed the traditional ratio of omega-6 to omega-3 fatty acids in the diet. Soy oil consumption in the US, for example, has increased thousand-fold in the last 100 years helping to skew the omega-6 to omega-3 ratio from about 1:1 to today's 16:1. This, Dr. Hibbeln believes, spells trouble. The brain consists pretty well entirely of fat so clearly one's fat intake could affect one's brain composition, particularly the ion channels which channel signals in and out of the brain. There is also evidence that low levels of omega-3 fatty acids are associated with low levels of the mood hormone serotonin. Dr. Hibbeln's hypothesis is supported by the fact that the incidence of depression is considerably lower in countries with a high fish consumption.

Fish, particularly fatty ocean fish, is an excellent source of omega-3 fatty acids and its frequent consumption would help to nudge the ratio back towards the optimum 1:1. At least three clinical trials have observed a marked improvement in depressed patients given relatively high doses of fish oils. This has spurred other scientists to look closer at the potential benefits of fish oil supplementation. At the moment there are at least 10 clinical trials underway evaluating fish oils in the treatment of depression, attention deficit disorder, and schizophrenia.

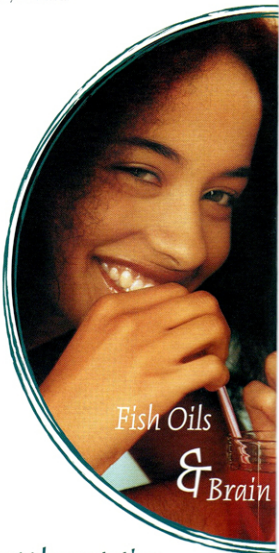
Small, Meredith F. The happy fat. New Scientist, August 24, 2002, pp. 34-37

Editor's Comment: Daily supplementation with 1-3 grams of a high quality fish oil is entirely safe and may not only improve your mood, but help protect you from heart disease, stroke and arthritis as well.

Dementia associated with low DHA levels

GUELPH, CANADA. Dementia now affects about 47% of the population over 80 years of age in Western countries. The incidence of Alzheimer's disease, a leading cause of dementia, is growing especially rapidly. There is no cure for Alzheimer's disease (AD) and it is not at all clear what causes it. Researchers at the University of Guelph now report that they have found low levels of long-chain polyunsaturated fatty acids, notably DHA (docosahexaenoic acid) in people suffering from AD and dementia.

The study involved 84 people (aged 80 years or older) who were given a thorough clinical evaluation. Nineteen of the people were diagnosed as having AD, 10 as having non-AD dementia, 36 were characterized as non-demented but cognitively impaired, and 19 had normal cognitive functioning. Blood samples were obtained from all participants and analyzed for fatty acids in the phospholipid phases of the plasma. The researchers observed significantly lower levels of EPA (by about 42%), DHA (by 17-33%) and total omega-3 fatty acids (by 23-28%) in the plasma phospholipids phase of the patients with AD, other dementia and cognitive impairment (non-demented) than in the normal controls. DHA is highly concentrated in the cerebral cortex and a deficiency in blood plasma is likely to translate into a deficiency in the brain.



"fish oil supplementation

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