Omega-3 Fish Oil

NOT JUST FOR THE HEART

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Fish oil first gained popularity as a **"heart-healthy"** supplement containing beneficial **omega-3 fatty acids**. The interest in fish fats began in 1969, when two Danish physicians, H.O. Bang and J. Dyerberg, noticed that the Eskimo population of Greenland had a considerably **lower death rate** from heart disease than the rest of the Danish population. The research duo concluded that the lower death rate was linked to the high amounts of fish fat in their diet.[1]

Since then we have learned that omega-3 fish fats are not "just for the heart". Research has shown that fish oil also has a positive effect on numerous other disease conditions including arthritis, diabetes, neurological disorders and mental disorders, skin diseases, and cancer.

Cold-water fish, including cod, salmon, and mackerel, contain the essential fatty acids Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA). These essential fatty acids, or EFAs, help regulate everyday cellular functions in the body that are necessary for good health. We must get EFAs in our diet or through nutritional supplements.

Current Areas of Research

Coronary Heart Disease and Hyperlipidemia: Studies have found a strong relationship between the fatty acids ALA, EPA, and DHA and reduced occurrence of coronary heart disease and atherosclerosis, a disease in which a plaque-like substance forms on the blood vessel walls. Fish oil can decrease the risk of coronary heart disease and heart attacks. A large number of clinical trials have established that both EPA and DHA reduce blood triglycerides by 25-30 percent. It is also well documented that regular consumption of fish oil reduces platelet adhesion and aggregation, and prevents blood clotting.[2,3]

Arrhythmia: Cardiac arrhythmia is the broad term applied to disorders characterized by an irregular heartbeat. The severity of this condition can range from mild to critical, where the heart may stop beating completely. Arrhythmia is responsible for Sudden Cardiac Death syndrome and follows many so-called "heart attacks". There is strong clinical evidence suggesting the protective role of fish oil for this condition. Studies have identified the most anti-arrhythmic component of fish oil as DHA or its combination with EPA.[4]

Research has shown that fish oil also has a positive effect on heart health and numerous disease conditions including diabetes, arthritis, skin diseases, neurological disorders, cancer, and allergies.

Hypertension: The blood pressure lowering effects of dietary fish oil have been well evaluated by a meta-analysis of 31 placebo-controlled trials comprising 1,356 patients.[5] Fish oil's effect appears greater in patients with high blood pressure.

Arthritis: Abnormal fatty acid levels and decreased levels of EPA occur in patients with rheumatoid arthritis.[6] Not surprisingly, fish oil supplementation can normalize these levels. Numerous studies have shown that supplementation consistently reduces joint inflammation and tenderness, and reduces the duration of morning stiffness.[7] Patients have also been able to significantly reduce their intake of NSAIDs (non steroidal anti-inflammatory drugs) and other drugs used to treat arthritis. In fact, some patients were able to discontinue their other medication completely, without having a flare up.[8,9] Furthermore, animal studies have shown that fish oil supplementation protects against gastric ulceration, a common side effect of NSAIDs.[10] Recent research has uncovered even better news – supplementation may offer protection against cartilage destruction that normally occurs during the disease.[11]

Skin Disease: Essential fatty acids are well known to improve many skin disorders, including dry, itchy, inflamed skin. These good fats improve the barrier function of the skin and help prevent moisture loss. Fish oil supplementation is especially effective in the treatment of psoriasis.[12,13] Even increasing dietary consumption of oily fish has proven beneficial in combating psoriasis.[14]

Mental disorders: Currently scientists predict that fish oil may alleviate certain mental disorders. A group of 16 patients with bipolar disorder ("manic depression") who took fish oil for four months experienced much longer periods of remission than those given a placebo. Only 13 percent of patients receiving fish oil experienced the recurrence of mania or depression, compared to more than 50 percent in the placebo group. A group of researchers from the United Kingdom also found that schizophrenic patients who consume more ALA, DHA and EPA in their diet or receive them

as supplements have less severe symptoms. Studies suggest that depression may also be related to insufficient amounts of these EFAs.[15, 16]

Deficiency of ALA, EPA and DHA also plays a role in a significant number of other mental disorders including aggression, depression, dementia, and Attention Deficit Hyperactivity Disorder.

Diabetes: Individuals with diabetes may benefit from fish oil supplementation for several reasons. Although the effect of fish oil on blood glucose levels is controversial, both epidemiological and animal studies indicate that high fish consumption may reduce the incidence of diabetes.[17,18] Secondly, supplementation clearly has numerous positive effects for the diabetic through reduction of triglycerides, blood pressure, and platelet aggregation. Thirdly, supplementation may provide a protective effect on nerve function – to help protect against diabetic neuropathy, a degenerative complication of diabetes.[19]

Multiple Sclerosis: There is considerable statistical evidence that the incidence of multiple sclerosis varies in countries where the diet differs. This data seems to show that the presence of ALA, EPA, and DHA may result in a lower incidence of this disease. A study published in 1989 looked at the long-term effects of ALA, EPA, and DHA in the treatment of multiple sclerosis.[20] The study concluded that there were improvements in the treated group when compared to the control group in terms of duration, frequency and severity of relapses and the number of patients who either improved or remained unchanged.

Why Supplement?

Fish oil contains the fatty acids EPA and DHA, which are as important to good health as other essential vitamins and minerals. EPA and DHA help maintain healthy cell membranes, which act as "gatekeepers" transporting nutrients inside and removing waste products from the cells. The higher the diet is in EFAs, the more fluid and flexible the membrane is, resulting in a more efficient exchange across the cell membrane. EPA and DHA can also help prevent and treat numerous conditions including heart disease, rheumatoid arthritis, mental disorders, multiple sclerosis, cancer, and others. The body can produce small amounts of EPA and DHA from Alpha Linolenic Acid (ALA), found in some natural sources such as flax seed. However, many factors in the typical North American lifestyle can impair the production of EPA and DHA: consumption of sugar, alcohol, saturated fats and trans-fatty acids, diabetes, aging, stress, prescription medications, and viral infections to name a few. Insufficient quantities of zinc, magnesium, and vitamins B6, C, and niacin also slow the process. Due to these factors, it is important to add omega-3 fatty acids from fish oils into the diet through supplementation.

Cancer: In some studies, it has been hypothesized that highly unsaturated fatty acids, found primarily in fish oil, could be used as a protective agent against certain cancers. Some studies on animals have shown that these fatty acids may decrease both the number and size of tumors; however the studies are still in the early stages.[21]

Crohn's Disease: A recent study has shown the effectiveness of fish oil in the maintenance of remission of Crohn's disease. Fifty patients were treated with an ALA, EPA, and DHA mixture or a placebo for 12 months. After the study was completed the rate of severe recurrences in the group treated with fish oil was 34 percent compared to 62 percent in placebo-treated patients.[22]

Pregnancy and Fetal Health: There is a small but noticeable worldwide tendency towards shorter pregnancies, which may have a negative effect on fetal development. It is suggested that an EFA deficiency may be responsible for the change. A study has shown that a diet rich in ALA, DHA and EPA may help lengthen pregnancy. Danish women who were given fish oil during their third trimester prolonged their pregnancies by four days. Fetuses, particularly in the third trimester, also require DHA to facilitate the development of brain and retinal tissue.[23]

Child Development: DHA makes up 15-20 percent of the fat in the brain and 30-60 percent of the fat in the retina. Studies show that children who receive sufficient amounts of DHA are intellectually "better off" than children who are deficient.[24, 25]

Lupus Erythematosus (LE): Lupus has symptoms ranging from minor skin disorders to severe kidney damage. Several investigations have indicated that fish oil could have a favorable effect on the disease. A 34-week, double-blind study was done involving 34 patients with lupus. Fourteen of the 17 patients using fish oil saw their condition improve, while 13 from the placebo group were rated worse or experienced no change.[7]

IgA Nephropathy: Mesangial IgA nephropathy is a common disease of the kidney, which usually causes renal failure within 10 to 20 years. A treatment that can help prevent renal failure in IgA nephropathy has not yet been found. However, some studies suggest that fish oil may have a beneficial effect in slowing the progression of this disease. Fish oil has been reported to prevent deterioration of renal function in experimental models of the disease.[26, 27]

A very safe supplement

Fish oil products are very safe. Researchers have used dosages as high as 15 grams per day and have not observed any significant side effects. Patients receiving anticoagulant therapy or recovering from stroke should exercise caution while supplementing with fish oil since it may exert blood thinning properties.

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