

Omega-3 Fatty Acid Supplements and Mental Health

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New research is shedding light on the role that omega-3 fatty acids play in the maintenance of good brain function and correcting problems in brain function. This article summarizes some of the findings and will give you additional resources to explore.

A large portion of your brain consists of fat. Each of your brain cells (called neurons) has an outer coating known as myelin. This coating helps nerves communicate with each other more effectively. Myelin consists of fatty acids, which help in communication, much as rubber coatings around electrical wires help transmit electricity more effectively. Myelin works best when it is made of omega-3 fatty acids. They are called essential fatty acids because the body cannot make them—you must get them from your diet much as you must get your essential amino acids from your diet for your body to produce proteins needed for growth.

However, many people's diets contain much more omega-6 fatty acids which are found in saturated fats and trans-fats, and very little of the omega-3 fatty acids, which are found in oily fish such as salmon, and to a lesser extent in walnuts. And if your body doesn't get enough of the omega-3 fatty acids, it uses the less effective omega-6 fatty acids instead. Part of the problem is the molecular shape of the omega-6 is different than the shape of the omega 3, making it less effective in transmitting neural impulses.

Of course, the issue is more complicated than this. Feel free to skip this part if you're not interested. If you look at omega-3 supplements, you will see on the label ingredients called EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid). If we get enough Green leafy vegetables, flax, flaxseed oil, canola oil, walnuts, or Brazil nuts all contain ALA (alpha-linolenic acid). Your body converts ALA to EPA, which then is converted to DHA, and finally to omega-3 eichosanoids. DHA is especially important in brain functioning; people who are depressed are often low in DHA.

Omega-3 fatty acids tend to reduce inflammation, while omega-6 fatty acids tend to promote inflammation, though your body needs a certain amount of omega-6 as well. A healthy diet should consist of one to four times more omega-6 than omega 3, while a typical American diet tends to contain 11 to 30 times more omega-6 compared to omega 3.

How about the research?

- In a pilot study of 28 depressed children in Israel, 7 out of 10 children had a reduction in depression scores of more than 50%.
- In an Australian study of 132 kids with ADHD, kids who received polyunsaturated omega-3 and omega-6 fatty acids showed significant improvement in ADHD rating scales after 15 weeks, including ratings of oppositional behavior.

- A clinical study used omega-3 and omega-6 fatty acid supplementation in 117 children with ADHD. They study found significant improvements in reading, spelling, and behavior in the children over the 3 months of therapy. Another clinical study found that omega-3 fatty acid supplementation helped to decrease physical aggression in school children with ADHD.
- In a clinical study of 30 people with bipolar disorder, those who were treated with EPA and DHA (in combination with their usual mood stabilizing medications) for 4 months experienced fewer mood swings and recurrence of either depression or mania than those who received placebo. Another 4-month long clinical study treating individuals with bipolar depression and rapid cycling bipolar disorder did not find evidence of efficacy for the use of in EPA in these patients.
- Nordic Naturals, Inc, a leading supplier of fish oil and essential fatty acid nutritional supplements, reported the results of a successful pilot trial in 2004 that showed beneficial effects of essential fatty acids (EFAs) on language and learning skills in children with autism and Asperger's syndrome.
- Depression is 60 times higher in New Zealand, where average seafood is much less than in Japan.
- Lower levels of post-partum depression occur in women who had more seafood in their diet.

Omega-3 has also been shown to lower blood pressure, lower cholesterol, lower the risk of heart attack, improve asthma symptoms, and lower the incidence of colon cancer. More research is underway, but so far the results look promising.

However, omega-3 also has a blood thinning effect, though it is weaker than aspirin. Be sure to consult with your doctor if this may be a concern for you.

Fish, plant, and nut oils are the primary dietary source of omega-3 fatty acids. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are found in cold-water fish such as salmon, mackerel, halibut, sardines, tuna, and herring. ALA is found in flaxseeds, flaxseed oil, canola (rapeseed) oil, soybeans, soybean oil, pumpkin seeds, pumpkin seed oil, purslane, perilla seed oil, walnuts, and walnut oil. Other sources of omega-3 fatty acids include sea life such as krill and algae. Other sources of omega-3s include canola oil, broccoli, cantaloupe, kidney beans, spinach, grape leaves, Chinese cabbage, cauliflower, and walnuts.

Omega-3 helps to reduce the negative impact of yet another essential type of fatty acid known as omega-6s. Found in foods such as eggs, poultry, cereals, vegetable oils, baked goods, and margarine, omega-6s are also considered essential. They support skin health, lower cholesterol, and help make our blood "sticky" so it is able to clot. But when omega-6s aren't balanced with sufficient amounts of omega-3s, problems can occur, as noted above.

Taking 2 grams of fish oil with omega 3 (2 fish oil capsules) for an adult is considered a typical dose, while 500 mg. for children is typical. Recommendations for kids include:

Coromega (www.coromega.com), which is available at GNC or online

OmegaBrite (www.omegabrite.com)

Nordic Naturals (<http://www.nordicnaturals.com/>)

For adults, 2 grams (generally 2 capsules) of fish oil is considered a safe dose. They can Individuals taking more than 3 grams daily of omega-3 fatty acids from capsules should do so only under the supervision of a health care provider due to an increase risk of bleeding. In terms of brands to try, ConsumerLab.com rates supplements for purity and consistency. Examples of recommended brands include CVS Natural Fish Oil Concentrate, GNC Preventive Nutrition Omega Complex, Nature's Bounty Cold Water Salmon Oil, Puritan's Pride (various formulations), The Vitamin Shoppe Essential Oils and Fatty Acids, Vitamin World (various formulations). Kirkland Signature Enteric Coated Fish Oil 1700 mg Concentrated Fish Oil was NOT recommended.

For more information, check out the following resources:

<http://www.umm.edu/altmed/articles/omega-3-000316.htm>

<http://www.webmd.com/diet/guide/good-fat-bad-fat-facts-about-omega-3>

http://www.mayoclinic.com/health/fish-oil/NS_patient-fishoil

<http://www.amenclinics.com/bp/articles.php?articleID=10>

<http://www.mcmanweb.com/article-15.htm>