

# Anger and Depression: Can Omega-3 Fatty Acids Help?

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The possible beneficial effect of omega-3 fatty acids on brain development and mental health continues to be an exciting area of research. Certain fatty acids (linoleic acid and alpha-linoleic acid) are essential in our diets. Like vitamins, we need them but can't make them ourselves. We get them from our food or from dietary supplements. Good sources for these beneficial fatty acids are certain fish and plant oils.

I wrote recently about a [study](#) which showed that the amount of fish women eat during pregnancy is correlated to the improvements in cognitive development made by their children by age 3. The conclusion was that more fish was better, except when the species of fish consumed had higher-than-average mercury levels.

Quite a lot of research has investigated the effects of omega-3 fatty acids on particular psychiatric disorders. So far, while no conclusive evidence has shown that omega-3s represent effective treatments for specific diseases, controlled clinical studies have shown some improvement in symptoms related to depression, anxiety, and attention.

Some studies suggest that diets supplemented with omega-3 fatty acids can enhance the activity of serotonin and dopamine pathways in the brain, and this may explain the observed benefits. Data also suggest that supplementation with eicosapentaenoic acid (EPA) yields the best results.

Interestingly, Western diets tend to be low in omega-3 fatty acids. Instead, we're inclined to take in more omega-6 fatty acids, which do not have the same beneficial effects. Some researchers have speculated that the omega-3 dietary deficiency found in developed nations can affect the mental health of these populations and may even contribute to a general increase in aggression and violence within Western societies.

International epidemiologic surveys have further shown that these countries where diets are higher in the omega-6 fatty acid (linoleic acid) have significantly higher murder rates than do those countries where people typically consume foods containing higher levels of the omega-3 fatty acids.

Several small studies have demonstrated that people given extra amounts of omega-3 fatty acids became less aggressive and hostile as a result. Some experts have gone so far as to argue that prisoners should be given supplements or a diet rich in omega-3 fatty acids to reduce their hostility and, perhaps, their future criminal behavior.

Researchers at the U.S. National Institute on Alcohol Abuse and Alcoholism (NIAAA) also argue that optimal intakes of omega-3 fatty acids during both early development and adulthood may help decrease aggression and hostility. They suggest that behavioral problems may result from abnormalities in serotonin functioning, especially in the brain's limbic system, which helps regulate emotional responses.

One NIAAA study of 21 domestic-violence offenders found that low levels of the omega-3 fatty acid docosahexaenoic acid (DHA) were associated with higher levels of the stress-related corticotropin-releasing hormone, which may encourage violent behavior by increasing fear and anxiety.

It's possible that omega-3 fatty acids affect only the brain's *general* functioning, so that any mental benefits from these fatty acids do not directly influence the underlying processes that cause specific psychiatric disorders. As usual, more research is necessary.

Beyond their possible mental health benefits, the omega-3 fatty acids have been shown to help reduce serum triglyceride levels and aid in the treatment of hypertension. The American Heart Association recommends that all people, with and without cardiovascular disease, eat a diet rich in these compounds.

One downside: Fish oils apparently decrease platelet aggregation and prolong bleeding time, so very large doses sometimes will cause excessive bleeding in those having that tendency.

In the meantime, eat more fish but be careful not to take in too much mercury, which is found in larger fish like tuna and swordfish. Another option is to take omega-3 fatty acid supplements. The U.S. Food and Drug Administration classifies as "generally regarded as safe" a daily dose of up to 3 grams of omega-3 fatty acids from fish.

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