

Omega-3 Fatty Acids: Good for the Heart, and Good for the Brain

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In Light of the FDA's New "Black Box" Warning for Antidepressants, NewYork-Presbyterian/Weill Cornell Physician-Scientists Call for Further Investigation of Omega-3s

NEW YORK (October 19, 2004) – There is mounting evidence that a diet containing omega-3 fatty acids, already known to help prevent cardiovascular disease, may also prevent depression. In light of the Food and Drug Administration (FDA)'s recent ruling that antidepressants will be labeled with a "black box" warning about the drugs' higher potential suicide risk in children, NewYork-Presbyterian Hospital/Weill Cornell Medical Center nutrition experts call for further study of the mental health benefits of omega-3 fatty acids.

"Given recent findings of serious risks linked with antidepressants, we should prioritize the study of natural antidepressants contained in dietary sources—specifically omega-3 fatty acids found most abundantly in fish and seafood," says Dr. Barbara Levine, associate professor of nutrition in clinical medicine at Weill Cornell Medical College and director of the DHA Information Center at NewYork-Presbyterian/Weill Cornell. Dr. Levine has been studying DHA (a component of omega-3's) and its effects on lowering triglycerides and raising HDL (high density lipoproteins) in overweight and obese patients with metabolic syndrome.

"Omega-3 consumption in the U.S. is lower than any other country; the U.S. also has one of the highest depression rates in the world," says Dr. Jeffrey Borer, chief of the division of cardiovascular pathophysiology at NewYork-Presbyterian/Weill Cornell and Gladys & Roland Harriman professor of cardiovascular medicine at Weill Cornell Medical College. "New research has linked omega-3 consumption inversely with incidence of mental and immune disorders. However, further research among all age groups and populations is necessary in order to confirm these findings and to enable further education of the public."

The relation of omega-3's—principally DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid)—and depression has been revealed in several studies worldwide. In a large Finnish study of fish consumption and depressive symptoms, published in *Psychiatric Services* in April 2001, Tanskanen, et al. demonstrated that the likelihood of having depressive symptoms was significantly higher among infrequent fish consumers than among frequent fish consumers. They theorize that the human brain is adapted to Paleolithic diets of our ancient ancestors, whose diet comprised equal proportions of omega-3 fatty acids and omega-6 fats (found in corn and soy seed oils). In the past 100 years,

Western diets have lowered the ratio of omega-3 to omega-6 to about 1:25; simultaneously, the prevalence of major depression increased.

In the 2003 Rotterdam Study, published in the American Journal of Clinical Nutrition, Tiemeir, et al., found that elderly persons with depression had a fatty acid composition different from that of non-depressed persons. Percentages of omega-3 polyunsaturated fatty acids (PUFAs) were significantly lower, and the ratios of omega-6 to omega-3 PUFAs were significantly higher in subjects with depressive disorders than in control subjects.

Dr. Joseph R. Hibbeln of the National Institute on Alcohol Abuse and Alcoholism, part of National Institutes of Health (NIH), discovered that omega-3 may influence serotonin functionality in the brain. In a letter published in The Lancet in April 1998, he reported that among healthy volunteers, low plasma concentrations of DHA predict low concentrations of a marker of brain serotonin turnover. Low concentrations of serotonin are strongly associated with depression and suicide.

DHA is a primary building block in the gray matter of the human brain and in the retina of the eye, and is present in every cell in the body. It is essential at every stage of human life, beginning in utero. DHA, like EPA, must be derived from foods because the body cannot produce its own supply. It is available in fish and as a pure pharmaceutical-grade nutritional supplement, and with an ideal ratio of omega-3s to omega-6s (10:1).

At the Food and Drug Administration (FDA)'s Psychopharmacologic Drugs and Pediatric Advisory Committees meeting on September 13 and 14, committee members and relatives of children with depression heard testimony from an international panel of pediatric suicide experts who had analyzed data from approximately 15 clinical studies on the use of SSRI (Selective Serotonin Reuptake Inhibitor) antidepressants in children and teens. They also heard from industry representatives of the companies who manufacture the medications. According to press reports, the panelists found a consistent link between antidepressants and suicidal thoughts and behavior among two to three percent of the subjects, with the increase in suicidal tendencies as a result of taking the medications and not a result of the children's underlying depression.

As a result of the hearings, on Friday, October 15, the FDA announced that it will direct manufacturers to add a "black box" warning to the health professional labeling of all SSRI antidepressant medications to describe this risk and emphasize the need for close monitoring of patients started on these medications. The FDA will also develop a Patient Medication Guide (MedGuide), which will be given to patients receiving the drugs to advise them of the risk and precautions that can be taken.

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