

Omega-3 EPA linked to less depression

13/05/2008- **Increased blood levels of the omega-3 fatty acid eicosapentaenoic acid (EPA) may reduce the severity of symptoms of depression, particularly in people taking antidepressants, suggests new research from France.**

A study of 1390 subjects from Bordeaux in France reports that EPA levels in people with depressive symptoms were on average 0.16 per cent lower than in normal people, according to data published in this month's issue of the *American Journal of Clinical Nutrition*.

"This result adds to the growing body of evidence implicating long-chain PUFAs in mental disorders," wrote the researchers from the Equipe Epidemiologie de la Nutrition et des Comportements Alimentaires (INSERM U593) and the University of Bordeaux 2.

Numerous observational studies and uncontrolled trials have reported the benefits of fish oils and omega-3 fatty acids docosahexaenoic acid (DHA) and EPA on the behaviour and learning, especially in kids, as well for improving the symptoms of depression.

"The novel finding of our survey was the significant association observed between plasma EPA and severity of the depressive symptomatology (DS) in aged subjects already taking antidepressant medication," added the researchers.

Study details

The researchers recruited 1390 subjects (average age 74.6, 65 per cent women). Symptoms of depressions were evaluated using the Center for Epidemiologic Studies Depression scale, while blood samples were taken in order to measure fatty acid levels in the blood.

People with depression were older than control subjects without any symptoms of depression. They also performed less well on the Mini-Mental State Examination than their younger control comparisons.

No significant differences were observed between subjects when the researchers considered fatty acid percentages and ratios in relation to depression symptoms, except for EPA levels.

Indeed, plasma EPA was 0.85 per cent in the subjects with depression, compared to 1.01 per cent in healthy controls. This inverse association between EPA and depression was also observed when the researchers considered people taking anti-depressive subjects.

Researchers added that the apparent benefits are "biologically plausible because several mechanisms underlying the association between fatty acids and brain disorders have already been evoked."

They called for additional studies to support the relationship between PUFA levels and symptoms of depression, elucidate the mechanism, and determine if higher omega-3 intake may influence the development of depression in later life.

"It will also be useful to determine whether clinically depressed patients with abnormally low EPA and/or DHA concentrations would benefit from supplementation," concluded the researchers in the AJCN.

Building the science behind the benefits

The Bordeaux study adds to a small but growing body of studies reporting benefits of the polyunsaturated fatty acids on mental health. Last year, researchers from Norway reported that regular and long-term intake of omega-3 fatty acid-rich cod liver oil may protect people from symptoms of depression.

The study, published in the *Journal of Affective Disorders*, followed 21,835 subjects aged between 40 and 49 and 70 and 74 years, and found that the prevalence of depressive symptoms was 29 per cent lower in regular cod liver oil users than the rest of the population.

Moreover, a joint Anglo-Iranian study reported that depression ratings were cut by 50 per cent following daily one gram supplements of EPA, an effect similar to that obtained by the antidepressant drug fluoxetine, according to findings published in the *Australian and New Zealand Journal of Psychiatry*.

"To our knowledge this is the first report of EPA monotherapy in major depressive disorder," wrote the researchers from Tehran University of Medical Sciences and Swallownest Court Hospital in Sheffield (UK).

When the researchers provided the omega-3 supplement in combination with fluoxetine, depression ratings were cut by 81 per cent.

Despite this growing number of studies, the science overall is insufficient to support a link between omega-3 and depression, said the British Medical Journal's *Drug and Therapeutics Bulletin* (DTB) in February 2007.

"Despite observational evidence linking depression with reduced intake of long-chain omega-3 fatty acids, there is no convincing basis for using these nutrients as a [means of alleviating] the condition," stated the DTB.

The review also states that, when used in combination with antidepressant drugs, there is also only limited evidence.