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OMEGA 3 AND DEPRESSION - STATE OF ART

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Aims: Docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) are omega-3 polyunsaturated fatty acids (ω -3 PUFAs) involved in the structure and function of cell membranes in the brain. Because both compounds must be obtained from diet, by eating oily fish or fish oil, the consumption of fish or supplements of omega-3 could be correlated with neuropsychiatric disorders, as depression disorder.

Methods: Search of relevant studies in Scirus database.

Results: Epidemiological studies suggest that populations with high consumption of fish have low annual prevalence of major depression. Laboratorial research verified that major depression in acute coronary syndrome patients is associated with significantly lower plasma levels of ω -3 PUFAs, in particular of DHA; red blood cells membrane levels of total ω -3 PUFAs and of DHA are significantly lower in depressive patients; low plasma concentrations of DHA predict low concentrations of 5-hydroxyindolacetic acid, a marker of brain serotonin turnover, which, in turn, is strongly associated with depression and suicide. Clinical trials demonstrated the efficiency of EPA in the alleviating the symptoms of major depression in adults, childhood depression and postpartum depression.

Conclusions: Although the depression appears to be related with low levels of DHA in plasma and blood cells, controlled trials have found no effect of DHA supplementation in depression. On the contrary, EPA might have an adjunctive therapeutic value in the treatment of depression disorder. Much research is required to compare the effectiveness of the different fatty acids in the treatment of depressive disorder, as well as the relevant dose-response curves.