Omega-3 polyunsaturated fatty acids for postpartum depression

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Abstract

Several lines of evidence indicate an association between omega-3 polyunsaturated fatty acids (PUFAs) and depression. The purpose of this review was to evaluate the evidence to date within the context of the study design and methodology used. In case-control and cohort studies, concentrations of omega-3 PUFAs were lower in participants with unipolar and postpartum depression. Fish are the major dietary source of omega-3 PUFAs, and infrequent fish consumption is associated with depression in epidemiological studies. While these findings do not appear to be the result of confounding, in some studies failure to detect confounding may be due to a lack of power or incomplete control. In four of seven double-blind randomized controlled trials, depression was significantly improved upon treatment with at least 1 g/day of eicosapentaenoic acid, an omega-3 PUFA. While clinical significance was demonstrated, preservation of blinding may be a limitation in this area of research. It remains unclear whether omega-3 supplementation is effective independently of antidepressant treatment, for depressed patients in general or only those with abnormally low concentrations of these PUFAs. The relationship between omega-3 PUFAs and depression is biologically plausible and is consistent across study designs, study groups, and diverse populations, which increases the likelihood of a causal relationship