Abstract


Omega-3 for bipolar disorder: meta-analyses of use in mania and bipolar depression.

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OBJECTIVE: Studies using augmentation of pharmacotherapies with omega-3 in bipolar disorder have been conducted; however, to date a specific meta-analysis in this area has not been published. Thus, we present the significant findings from meta-analyses of omega-3 in the treatment of bipolar depression and bipolar mania.

DATA SOURCES: PubMed, CINAHL, Web of Science, and Cochrane Library databases were searched for clinical trials up to September 1, 2010, using the search terms bipolar disorder OR bipolar depression OR bipolar mania OR mania OR hypomania OR cyclothymia with the search terms omega 3 OR essential fatty acids OR polyunsaturated fatty acids OR DHA OR EPA OR fish oil OR flax oil. Clinical trial registries and gray literature (published or unpublished data not readily accessible via main databases) were also searched.

DATA SELECTION: The analysis included randomized controlled studies 4 weeks or longer, with a sample size > 10, written in English, using omega-3 for diagnosed bipolar depression or mania. No criteria were set for age, gender, or ethnicity.

DATA EXTRACTION: A random-effects model was used. The model analyzed the standard mean difference between treatment and placebo between baseline and endpoint, combining the effect size (Hedges g) data. Funnel plot and heterogeneity analyses (I²) were also performed.

DATA SYNTHESIS: The findings of 5 pooled datasets (n = 291) on the outcome of bipolar depression revealed a significant effect in favor of omega-3 (P = .029), with a moderate effect size of 0.34. On the outcome of mania, 5 pooled datasets (n = 291) revealed a nonsignificant effect in favor of omega-3 (P = .099), with an effect size of 0.20. Minor heterogeneity between studies on the outcome of bipolar depression was found (I² = 30%; P = .213), which was not present on the outcome of bipolar mania (I² = 0%; P = .98). Funnel plot symmetry suggested no significant likelihood of publication bias. Meta-regression analysis between sample size and effect size, however, revealed that studies with smaller sample sizes had larger effect sizes (P = .05).

CONCLUSIONS: The meta-analytic findings provide strong evidence that bipolar depressive symptoms may be improved by adjunctive use of omega-3. The evidence, however, does not support its adjunctive use in attenuating mania.

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