

# Abstract

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## Effect of DHA supplementation during pregnancy on maternal depression and neurodevelopment of young children: a randomized controlled trial.

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**CONTEXT:** Uncertainty about the benefits of dietary docosahexaenoic acid (DHA) for pregnant women and their children exists, despite international recommendations that pregnant women increase their DHA intakes.

**OBJECTIVE:** To determine whether increasing DHA during the last half of pregnancy will result in fewer women with high levels of depressive symptoms and enhance the neurodevelopmental outcome of their children.

**DESIGN, SETTING, AND PARTICIPANTS:** A double-blind, multicenter, randomized controlled trial (DHA to Optimize Mother Infant Outcome [DOMInO] trial) in 5 Australian maternity hospitals of 2399 women who were less than 21 weeks' gestation with singleton pregnancies and who were recruited between October 31, 2005, and January 11, 2008. Follow-up of children (n = 726) was completed December 16, 2009.

**INTERVENTION:** Docosahexaenoic acid-rich fish oil capsules (providing 800 mg/d of DHA) or matched vegetable oil capsules without DHA from study entry to birth.

**MAIN OUTCOME MEASURES:** High levels of depressive symptoms in mothers as indicated by a score of more than 12 on the Edinburgh Postnatal Depression Scale at 6 weeks or 6 months postpartum. Cognitive and language development in children as assessed by the Bayley Scales of Infant and Toddler Development, Third Edition, at 18 months.

**RESULTS:** Of 2399 women enrolled, 96.7% completed the trial. The percentage of women with high levels of depressive symptoms during the first 6 months postpartum did not differ between the DHA and control groups (9.67% vs 11.19%; adjusted relative risk, 0.85; 95% confidence interval [CI], 0.70-1.02; P = .09). Mean cognitive composite scores (adjusted mean difference, 0.01; 95% CI, -1.36 to 1.37; P = .99) and mean language composite scores (adjusted mean difference, -1.42; 95% CI, -3.07 to 0.22; P = .09) of children in the DHA group did not differ from children in the control group.

**CONCLUSION:** The use of DHA-rich fish oil capsules compared with vegetable oil capsules during pregnancy did not result in lower levels of postpartum depression in mothers or improved cognitive and language development in their offspring during early childhood.

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