Use of DHA fish oil capsules does not decrease postpartum depression in mothers

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In contrast to the findings of some studies and the recommendations that pregnant women increase their intake of fish oil via dietary docosahexaenoic acid (DHA) because of the possible benefits, a randomized trial that included more than 2,000 women finds that use of DHA supplements did not result in lower levels of postpartum depression in mothers or improved cognitive and language development in their offspring during early childhood, according to a study in the October 20 issue of *JAMA*.

"Epidemiological investigations from the United States and Europe demonstrate that higher intakes of n-3 long-chain polyunsaturated fatty acids (LCPUFA) from fish and seafood during pregnancy are associated with a reduced risk of depressive symptoms in the postnatal period, as well as improved developmental outcomes in the offspring," the authors write. "However, n-3 LCPUFA intervention trials in human pregnancy have reported mixed results and have not been conclusive largely because of methodological limitations." The researchers add that trials focused on the developmental outcomes of children had high attrition rates and were not large in size.

"Despite the paucity of evidence, recommendations exist to increase intake of DHA in pregnancy, and the nutritional supplement industry successfully markets prenatal supplements with DHA to optimize brain function of mother and infant. Before DHA supplementation in pregnancy becomes widespread, it is important to know not only if there are benefits, but also of any risks for either the mother or child," the

authors state.

Maria Makrides, B.Sc., B.N.D., Ph.D., of the Women's and Children's Health Research Institute, Adelaide, Australia and colleagues conducted a multicenter, randomized controlled trial to assess whether DHA supplementation during the last half of pregnancy reduced the risk of depressed maternal mood during the postpartum period and improved early cognitive development in offspring. The study, conducted in 5 Australian maternity hospitals, included 2,399 women with gestation of less than 21 weeks and who were recruited between October 2005 and January 2008. Follow-up of children (n = 726) was completed December 2009. Women received DHA-rich fish oil capsules (providing 800 mg/d of DHA) or matched vegetable oil capsules without DHA from study entry to birth. Of the 2,399 women enrolled, 96.7 percent completed the trial.

Levels of depression in mothers was measured with the Edinburgh Postnatal Depression Scale; cognitive and language development in children was assessed by the Bayley Scales of Infant and Toddler Development.

The researchers found that the percentage of women reporting high levels of depressive symptoms during the first 6 months postpartum did not differ between the DHA and control groups (9.67 percent vs. 11.19 percent). The percentage of women with a new medical diagnosis for depression during the trial or a diagnosis requiring treatment also did not differ between groups.

Also, average cognitive scores of children from women allocated to the DHA group did not differ from average scores of children of women from the control group; and overall, average language scores did not differ between groups. Other developmental outcomes, such as motor development and social-emotional behavior, did not differ between

groups overall.

"Current recommendations suggest that pregnant women increase their dietary DHA to improve their health outcomes as well as those of their children. Such recommendations are increasingly being adopted with women taking prenatal supplements with DHA," the authors write. "However, the results of [this trial] do not support routine DHA supplementation for pregnant women to reduce depressive symptoms or to improve cognitive or language outcomes in early childhood."

"Our results are at odds with the results of some large-scale epidemiological studies. It may be that even well-conducted epidemiological studies overestimate effect size and do not adequately deal with residual confounding, or that other nutrients in fish and seafood, beyond DHA, contribute to the observations from epidemiological studies. Further studies are required to determine whether there are specific benefits of DHA supplementation for women with a previous history of depression and for women at risk of preterm birth."

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