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IADSA SCIENTIFIC RESPONSE- IADSA SCIENTIFIC ALERT SERVICE

Issue: A new Australian study reported that supplementation with docosahexaenoic acid (DHA)–rich fish oil capsules during pregnancy has no benefit for post-natal depression and babies' cognitive development

Publication: JAMA 2010; 304: 1675-1683
Title: Effect of DHA supplementation during pregnancy on maternal depression and neurodevelopment of young children: A randomized controlled trial
Authors: Makrides M, Gibson RA, McPhee AJ, *et al.*
Date: October 20, 2010

Summary of the study:

A double-blind, multicenter, randomised controlled trial recruited 2,399 pregnant women (21 weeks pregnant) and they were given either DHA-rich fish oil capsules (800 mg/d of DHA) or matched vegetable oil capsules until childbirth. There was no significant difference in the reduction of depression symptoms and cognitive and language development of the babies at 18 month old.

Responses:

1. The benefit of fish oil for pregnant women is well established. Fish are a rich source of long-chain n-3 (omega-3) polyunsaturated fatty acids (PUFA), essential nutrients that have important structural and physiological roles in several body systems, including neurological, immune, and cardiovascular¹. DHA is one of the omega-3 fatty acids in fish oil.
2. The status of omega-3 fatty acids is critical during pregnancy. DHA is a necessary structural component of the brain and retina, and DHA uptake into these tissues is maximal during the second half of gestation and infancy.
3. The US Institute of Medicine recommends pregnant women to eat two servings of fatty fish (such as sardines or anchovies) per week, or take fish oil supplements (containing 200-300 mg/DHA) daily.
4. The shortcomings of the study include no measurement of the basal DHA level at the beginning of pregnancy, and unknown DHA status during assessment of post-natal depression. Further, the DHA status of the babies at 18-month was not known during the neurocognitive

assessment. A different study outcome may be seen if the data were stratified based on DHA level.

5. Dr Duffy MacKay, Vice president of Scientific & Regulatory Affairs for the Council for Responsible Nutrition (CRN), commented that the timeliness of the dosing may have had an impact on the outcome of the study. Intake of fish oil supplement before or throughout pregnancy and after pregnancy may be required to see the benefit.
6. For the babies, no information about dietary fish oil intake in the 18 months following birth. The lack of difference in the study could be babies in the control group have received DHA through breast milk or through DHA enriched milk formula.
7. There are different factors that impact the DHA status of the mothers and children in both the supplemented and control groups. It could be differences in the ability to synthesise DHA from other fatty acids, the rate of maternal to fetal transfer of DHA, as well as other dietary nutrients and sources of DHA not controlled for.
8. Despite the findings, a number of experts support the intake of fish oil supplement because there are few side effects and the nutrient have other benefits. Taking fish oil can contribute to an overall healthy pregnancy.

2 November 2010

Reference

1. Oken E, Belfort MB. Fish, Fish Oil, and Pregnancy. JAMA. 2010; 304(15): 1717-1718.