Analysis of Hospital Cost Outcome of DHA-rich Fish Oil Supplementation in Pregnancy: Evidence from a Randomized Controlled Trial


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Summary:

Higher intakes of fish/seafood containing DHA omega-3 fatty acid have been associated with longer gestation durations and higher infant birth weights. Recent controlled trials (including the DOMInO trial from the Adelaide group in Australia with DHA supplementation at 800 mg/day) found that DHA supplements during pregnancy could significantly reduce the incidence of very preterm births (below 34 weeks) with shorter hospital stays for infants born preterm to mothers and corresponding lower health care expenses. The present study was designed to estimate the reductions in Australian in-hospital costs via DHA supplementation during pregnancy.

Thus, an econometric analysis was conducted based on in-patient hospital costs, maternity costs (costs of hospital services for all antenatal admissions and delivery service), and the costs associated with neonatal care (incl. accommodation in the neonatal care unit based on birth weight, complications, and related health care challenges). The present analysis found that the number of early pre-term birth cases was 15% lower for the DHA-supplemented group as compared to the controls (not receiving DHA supplements). Based on the average reduced costs per mother supplemented with DHA and the number of pregnancies/year, it was determined that the projected cost savings for the Australian public hospital system would amount to at least 15 and up to 51 million Australian dollars annually. The authors concluded that it may be worthwhile from a policy perspective to encourage DHA supplementation among pregnant women.
Dr. Holub’s Comments:

The potential in-hospital savings in health care costs are immense if extrapolated globally from this Australian assessment. The overwhelming majority of pregnant women worldwide have DHA intakes far below 800 mg DHA/day. For example, our group reported that the average intake amongst pregnant Canadian women (based on direct nutrient assessment) was only 82 mg DHA/day (Denomme et al., J. Nutr., 135: 206-211 (2000)). In Japan, a country with notably high per capita intakes of DHA, a very recent study reported median intakes of DHA during pregnancy to be 323-359 mg/day (Shiraishi et al., Asia Pac. J. Clin. Nutr., 24: 316-322 (2015)). While the cost of high quality DHA supplements is very modest, it is possible (pending future studies) that lower intakes of supplemental DHA may yield similar benefits to those seen at 800 mg DHA/day although such is not yet known.