

Women who take n-3 long-chain polyunsaturated fatty acid supplements during pregnancy and lactation meet the recommended intake

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Abstract

The aim of the current study was to estimate total intake and dietary sources of eicosapentaenoic acid (EPA), docosapentaenoic (DPA), and docosahexaenoic acid (DHA) and compare DHA intakes with the recommended intakes in a cohort of pregnant and lactating women. Twenty-four-hour dietary recalls and supplement intake questionnaires were collected from 600 women in the Alberta Pregnancy Outcomes and Nutrition (APrON) cohort at each trimester of pregnancy and 3 months postpartum. Dietary intake was estimated in 2 ways: by using a commercial software program and by using a database created for APrON. Only 27% of women during pregnancy and 25% at 3 months postpartum met the current European Union (EU) consensus recommendation for DHA. Seafood, fish, and seaweed

products contributed to 79% of overall n-3 long-chain polyunsaturated fatty acids intake from foods, with the majority from salmon. The estimated intake of DHA and EPA was similar between databases, but the estimated DPA intake was 20%–30% higher using the comprehensive database built for this study. Women who took a supplement containing DHA were 10.6 and 11.1 times more likely to meet the current EU consensus recommendation for pregnancy (95% confidence interval (CI): 6.952–16.07; $P < 0.001$) and postpartum (95% CI: 6.803–18.14; $P < 0.001$), respectively. Our results suggest that the majority of women in the cohort were not meeting the EU recommendation for DHA during pregnancy and lactation, but taking a supplement significantly improved the likelihood that they would meet recommendations.

Key words: eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), docosapentaenoic acid (DPA), Alberta Pregnancy Outcomes and Nutrition (APrON), n-3 long-chain polyunsaturated fatty acids (LCPUFA).