

# Pregnant women not getting enough omega-3, critical for infant development

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Alberta Pregnancy Outcomes and Nutrition (APrON) is a birth cohort involving over two thousand women and their infants from Calgary and Edmonton that was funded by Alberta Innovates Health Solutions and includes researchers at the University of Alberta and the University of Calgary. The main objective of APrON is to understand the relationship between maternal nutrient status during pregnancy and maternal mental health and child health and development. As part of the project, the APrON team studied the first 600 women in the cohort during and after their pregnancy to see whether they were consuming enough omega-3 long chain polyunsaturated fatty acids (omega 3-LCPUFA) to meet current recommendations. The team has just published their results in the journal *Applied Physiology, Nutrition, and Metabolism*.

Omega-3 LCPUFA include [eicosapentaenoic acid](#) (EPA), docosapentaenoic acid (DPA) and docosahexaenoic acid (DHA). A source of these is required during pregnancy for fetal and placental development and is critical for the development of the infant, particularly for brain development.

The American Dietetic Association along with Dietitians of Canada recommends that all healthy adults including pregnant and [lactating women](#) consume at least 500 mg/day of omega-3 LCPUFA. The European Commission and the International Society for the Study of Fatty Acids and Lipids (ISSFAL) specifically recommends that pregnant and lactating [women](#) consume a minimum of 200 mg DHA per day.

The women from this group of APrON participant lived in Edmonton and Calgary. The team found that the majority of participants, despite a high level of education and income, were not meeting these recommendations for omega-3 LCPUFA during pregnancy and lactation.

According to the study: "Only 27% of women during pregnancy and 25% at three 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. Results suggest that the majority of women in the cohort were not meeting the EU recommendation for DHA during pregnancy and lactation."

The current study found 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 and postpartum, respectively. Recommendations could also be met by following the Health Canada recommendation to consume one to two portions per week of fish high in omega-3 fatty acids.

The results of this also study suggests that nutritional counseling and education about benefits of a supplement source of LCPUFA should extend beyond pregnancy as 44% percent of the women in the cohort who reported taking a supplement during pregnancy were no longer taking these supplements when breast feeding at three months postpartum.

The current study provides useful information for health practitioners and for future interventions (dietary or supplement recommendations) aimed at helping women obtain LCPUFA in their diet to ensure they are able to meet the needs of their infants.

**More information:** "Women who take n-3 long chain polyunsaturated fatty acid supplements during pregnancy and lactation meet the recommended intake" by Xiaoming Jia, Mohammadreza Pakseresht, Nour Wattar, Jamie Wildgrube, Stephanie Sontag, Murphy Andrews, Fatheema Begum Subhan, Linda McCargar, Catherine J Field\* and the APrON study team was published today in the journal *Applied Physiology, Nutrition, and Metabolism*. [www.nrcresearchpress.com/doi/abs/10.1139/apnm-2014-0313](http://www.nrcresearchpress.com/doi/abs/10.1139/apnm-2014-0313)

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