

Typical North American diet is deficient in omega-3 fatty acids

by Suzi Fraser

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New research from the [Child & Family Research Institute](#) shows the typical North American diet of eating lots of meat and not much fish is deficient in omega-3 fatty acids and this may pose a risk to infant neurological development.

Omega-3 fatty acids are unsaturated fats found in some fish such as salmon and herring and in smaller amounts in eggs and chicken. This discovery is an important step towards developing dietary fat guidelines for pregnant and breastfeeding women. Current dietary recommendations evolved from the 1950's emphasis on reducing saturated fat intake to lower the risk of cardiovascular disease.

The study is published March 7th, 2008 in the American Journal of Clinical Nutrition. "Omega 3 fatty acids are important for the baby's developing eyes and brain," says Dr. Sheila Innis, the study's principal investigator, head of the nutrition and metabolism program at the Child & Family Research Institute at BC Children's Hospital, and professor, department of pediatrics, University of British Columbia.

"During pregnancy and breastfeeding, fat consumed by the mum is transferred to the developing baby and breastfed infant, and this fat is important for the baby's developing organs. Our next task is to find out why the typical North American diet puts mothers at risk. Then we can develop dietary recommendations to help women consume a nutritious diet that promotes optimal health for mums and babies."

The researchers found that the women who ate lots of meat and little fish were deficient in omega-3 fatty acids, and their babies didn't do as well on eye tests as babies from mothers who weren't deficient. The results were noticeable as early as two months of age. The study is ongoing as the researchers intend to follow the children's development until four years of age.

For the study, the researchers recruited 135 pregnant women and randomly assigned them to either a group that took an omega-3 fatty acid supplement or one that took a placebo. All the women continued eating their regular diets. The supplement added the equivalent of two fatty fish meals per week, an amount that the researchers estimated would prevent deficiency. The researchers tested the women's blood samples at 16 and 36 weeks of pregnancy and measured the amount of DHA (docosahexaenoic acid), a type of omega-3 fatty acids that's known to be important for brain and eye function.

After the babies were born, the researchers did vision tests to evaluate the infants' ability to distinguish lines of different widths. It's an innovative way of evaluating neurological maturity in babies who are unable to talk. Since the eyes are connected to the brain, they reflect the brain's development.

The aim of this study was to contribute to a growing body of knowledge that focuses on the dietary needs of pregnant and breastfeeding women. More research is needed to identify recommended daily amounts of omega 3 fatty acids.

“For better health, it’s important for pregnant and nursing mums – and all of us – to eat a wide variety of fruits, vegetables, whole grains, nuts, eggs, and fish while minimizing consumption of processed and prepared foods,” says Dr. Innis.

The study was funded by the Canadian Institutes of Health Research. Martek Biosciences Corp. provided the supplements.

The Nutrition & Metabolism Research Program at the Child & Family Research Institute (CFRI) focuses on maternal and child nutrition and its impact on early development, child growth, healthy aging, and disease prevention. CFRI conducts discovery research to benefit the health of children and families. It is the largest research institute of its kind in Western Canada. CFRI works in close partnership with the University of British Columbia, BC Children’s Hospital and Sunny Hill Health Centre for Children, BC Women’s Hospital & Health Centre, agencies of the Provincial Health Services Authority, and the BC Children’s Hospital Foundation