Omega-3 deficient diet poses risks to infant health

3/11/2008- **The typical North American diet consisting of large amounts of meat and little fish is deficient in omega-3 fatty acids, posing possible risks to infant neurological development, says new research.**

This study, published this month in the *American Journal of Clinical Nutrition,* shows the potential of omega-3 supplementation and fortified foods aimed at pregnant and breastfeeding women.

It is just the latest of many studies showing the health benefits arising from the omega-3, a predominantly marine-sourced unsaturated fatty acid.

"Omega 3 fatty acids are important for the baby's developing eyes and brain," said researchers at the Child & Family Research Institute at BC Children's Hospital.

"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."

Study

Women who ate lots of meat and little fish were found to be deficient in omega-3 fatty acids, and their babies did not perform as well on eye tests, reflecting a difference in brain development.

The researchers recruited 135 pregnant women and randomly assigned them to two groups. The first group was given an omega-3 fatty acid supplement, while the second took a placebo. All the women continued to ear their regular diets.

The supplement added the equivalent of two fatty fish meals per week, an amount the researchers estimated would prevent deficiency.

The women's blood samples were taken at 16 and 36 weeks of pregnancy and measured for the amount of docasohexaenoic acid (DHA), a type of omega-3 fatty acids 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 - a method of evaluating neurological maturity in babies who are unable to talk.

According to the researchers, more girls had below average eyesight (visual acuity) in the placebo than in the DHA intervention group. Moreover, increased levels of omega-6 fatty acid status in the mother's red blood cell, using ethanolamine phosphoglyceride docosatetraenoic acid as a measure, were related to reduced visual acuity in both boys and girls.

This appears to be in line with a growing body of evidence linking an increased omega-3 to omega-6 intake ratio to improved health.

The report said that while this contributes to a growing body of knowledge on the dietary needs of pregnant and breastfeeding women, more research is needed to identify recommended daily amounts of omega-3 fatty acids.

Researchers added: *"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."*

Popularity of omega-3

Omega-3 has been increasingly linked to a wide range of health benefits, including reduced risk of cardiovascular disease (CVD) and certain cancers, joint health, and improved behavior and moods.

According to market researcher Packaged Facts omega-3 enriched foods make up the strongest sector of the functional foods market in the US - and there is still room there for significant growth.

The market for these goods has grown from approximately $100m to more than $2bn in four years. The firm predicts this category will reach $7bn in sales by 2011.