

Maternal omega-3 again linked to children's coordination

11/04/2008- **Increased intake of the omega-3 DHA during pregnancy could produce improved motor function in the offspring in later life, suggests a new study from Canada.**

Studying 109 Inuit infants in Arctic Quebec, the researchers report in the *Journal of Pediatrics* that levels of docosahexaenoic acid (DHA) in the mother's were directly related to levels in the umbilical cord, and subsequently in the foetus.

And increased levels were linked to improved visual, cognitive, and motor development in the offspring, report the researchers from Wayne State University School of Medicine, Detroit and Laval University.

"This study, which is the first to examine the effects of naturally occurring variability in prenatal DHA intake on cognitive and motor development, complements findings from maternal dietary supplementation studies about the beneficial effects of increased maternal DHA intake during pregnancy," wrote lead author Joseph Jacobson.

The research adds to our understanding of how omega-3 plays an important role in the development of the baby *in utero*, with a wealth of other studies reporting that a diet rich in the DHA omega-3 fatty acid during pregnancy and breastfeeding is associated with healthy pregnancies as well as the mental and visual development of infants.

Mothers are also said to be less at risk of post partum depression or mood change, and to recover more quickly after pregnancy, if they consume enough of the fatty acid.

Only recently omega-3 pioneer Dr. Jorn Dyerberg told NutraIngredients.com in an exclusive interview that he expected omega-3 recommendations to become broader and broader, including supplements during pregnancy and early childhood.

This is because of the benefits reported for mental development, and there are studies that show omega-3 supplementation can influence breast milk composition and subsequently a child's brain, he said.

The new results support the growing body of science indicating the benefits of an omega-3-rich maternal diet and improved health of the offspring.

Study details

The researchers measured the levels of DHA in the umbilical cord blood of the infants. *"DHA concentration in the umbilical cord is a good indicator of intra-uterine exposure to omega-3s during the last trimester of pregnancy, a crucial period for the development of retinal photoreceptors and neurons,"* explained lead researcher Eric Dewailly.

Results from tests conducted six and 11 months of age revealed DHA levels in the umbilical cord were closely linked to visual acuity, cognitive and motor development.

On the other hand, no association between DHA levels in breast milk and visual, cognitive or motor development measured were observed.

"These results highlight the crucial importance of prenatal exposure to omega-3s in a child's development," said study co-author Gina Muckle.

The research team indicated pregnant women should be encouraged to consume sufficient amounts of omega-3s.

"A diet rich in omega-3s during pregnancy can't be expected to solve everything, but our results show that such a diet has positive effects on a child's sensory, cognitive, and motor

development. Benefits from eating fish with low contaminant levels and high omega-3 contents, such as trout, salmon, and sardines, far outweigh potential risks even during pregnancy," they concluded.

Pollutant fears

Fears about dwindling fish stocks and the presence of pollutants, such as methyl mercury, dioxins, and polychlorinated biphenols (PCBs), have pushed some academia and industry to start producing omega-3s from alternative sources, such as algae extraction or transgenic plant sources. Most extracted fish oils are molecularly distilled and steam deodorised to remove contaminants.

According to Frost and Sullivan, the European omega-3 market was worth around €160m (£108m) in 2004, and is expected to grow at rates of 8 per cent on average to 2010.