

# Maternal fish diet boosts baby's language learning

**28/06/2004 - Women who ate fish regularly during pregnancy had children with better language and communication skills by the age of 18 months, shows a new study, which supports previous evidence that fatty acids found in the food boost children's neurological development.**

The findings, from a study of more than 7,000 English children, also back recent food product development, with a number of new launches specifically targeting mothers with added omega-3 fatty acids.

Fish intake for mothers and 7,421 children born in 1991 and 1992 was measured using a questionnaire. The researchers, from the US and UK, assessed each child's cognitive development using specially designed tests at 15 months and 18 months.

Overall, the study found that there was a subtle but consistent link between eating fish during pregnancy and children's subsequent test scores, even after adjusting for factors such as the age and education of the mother, whether she breastfed, and the quality of the home environment.

The largest effect was seen in a test of the children's understanding of words at the age of 15 months. Children whose mothers ate fish at least once a week scored 7 per cent higher than those whose mothers never ate fish.

The same pattern (although less marked) was seen in tests measuring social activity and language development, report the researchers in the July issue of *Epidemiology*. The developmental scores were also higher among children who also ate fish at least once a week before their first birthdays.

In addition, the researchers noticed a threshold effect: while there was a benefit in eating fish in moderation – there was no advantage in eating large amounts of fish.

*"The relationship with neuro-development was strongest for those eating fish between one and three times per week, with no additional benefit in eating fish more often,"* said author Dr Julie Daniels, assistant professor of epidemiology at the University of North Carolina at Chapel Hill School of Public Health.

This is important because fish can contain heavy metals and other contaminants. The UK's Food Standards Agency recently advised that pregnant women or those who may wish to have a child one day should not eat more than two portions of oily fish per week, to prevent excessive mercury intake.

However mercury levels in umbilical cord tissue for a subset of 1,054 children in the new study found total mercury concentrations to be low and not associated with neurodevelopment.

Daniels noted that further research, including following the children longer to determine whether any benefits from fish intake are permanent or transient, was needed to support the study's findings.

*"We can not say that we have proven that eating fish will have long-lasting effects in making people smarter since we have only looked at early development markers through an observational study."*

However the results back some previous trials.

Researchers in Norway examining the effects of the fatty acid docosahexaenoic acid (DHA) on mental development found that those children whose mothers had a higher intake of DHA during pregnancy scored higher on intelligence and achievement tests at four years of age than those whose mothers took fatty acids not containing DHA.

And children whose mothers were given a dose of docosahexaenoic acid (DHA) for the first four months of breastfeeding were found to perform better in attention tests than those whose mothers were not.

Fish, especially oily fish, contain eicosapentaenoic and DHA, which are important in the structural and functional development of the brain before birth and through a child's first year. The concentration of DHA in the foetal brain increases rapidly during the last three months in the womb.

Most of the leading infant formula makers now offer products with added omega-3 fatty acids to support this process but omega-3s have also been added to foods.

Another study from the same data collected by the University of Bristol (the Avon Longitudinal Study of Parents and Children, also known as Children of the 90s) recently found that a mother-to-be who eats fish during the later stages of pregnancy is less likely to have a very small baby.