

## Could fish oils in pregnancy cut asthma risk?

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The research, which was carried out in the framework of the EU-funded EARNEST ('Early nutrition programming - long term efficacy and

safety trials and integrated epidemiological, genetic, animal, consumer and economic research') project, is published in the latest edition of the American Journal of Clinical Nutrition.

In the study, the researchers traced over 500 children born to women who had taken part in a trial carried out in the Danish town of Aarhus back in 1990. The aim of that original trial had been to investigate whether taking fish oil supplements in the last trimester of pregnancy reduced the risks of pre-term delivery and low birth weight.

In the trial, women entering the last ten weeks of their pregnancy were randomly assigned to one of three groups: some were given fish oil supplements; others received olive oil supplements; and the third group received no supplements.

The results of that study revealed that women in the fish oil supplement group extended their pregnancies by an average of four days, and gave birth to babies which were 100 grams heavier.

In the new study, the scientists successfully traced almost all the children who had been involved in the previous study while still in the womb. They then studied hospital records to find out which children had been hospitalised due to asthma or related

conditions by the age of 16.

'We wanted to see whether the effects of fish oil in very early life had any effect on the child's risk of developing asthma as they grew up,' explained Professor Sjurður Olsen of the Maternal Nutrition Group at the Statens Serum Institute in Denmark.

The analysis revealed that 19 of the children had developed such severe asthma that they had had to go to hospital at some point in their lives. However, for children born to women in the fish oil supplement group, the risk of developing asthma was reduced by 63%, and the risk of developing allergic asthma was reduced by 87%, compared to children whose mothers had received olive oil supplements.

'There is strong biochemical evidence that the omega-3 fatty acids in fish oil may have modulatory effects on the immune system,' commented Professor Olsen. He suggests that fish oils could protect fetuses from developing asthma later in life by extending the duration of pregnancy and increasing birth weight; both pre-term delivery and low birth weight have been associated with an increased risk of developing asthma.

Another possibility is that the omega-3 fatty acids found in fish oils could cut the risk of both pre-term birth and later asthma through their ability to reduce inflammation.

However, the scientists warn that further research is needed before the dietary guidelines given to pregnant women are amended. 'These are results from a relatively small trial and therefore it is most important that our results are confirmed by other trials before we change any dietary recommendations for pregnant women,' stated Professor Olsen.

Although the precise causes of asthma remain unclear, there is a lot of evidence linking factors in the womb environment and the subsequent risk of developing asthma. Smoking, infections and antibiotic use during pregnancy have all been linked to an increased risk of asthma and related diseases in children.

The EARNEST project is funded under the 'Food quality and safety' priority of the EU's Sixth Framework Programme (FP6).

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