

Fish oil during pregnancy can reduce baby's asthma risk, study suggests

Study links low intake of omega-3, rise in childhood asthma, researchers say

By Kate Bueckert, [CBC News](#) Posted: Dec 29, 2016 1:43 PM ET Last Updated: Dec 29, 2016 2:37 PM ET

A new study says taking fish oil during the third trimester of pregnancy could reduce a baby's risk of developing asthma by almost a third.

The study, [published Thursday in the New England Journal of Medicine](#), was conducted by the Copenhagen Prospective Studies on Asthma in Childhood (COPSAC) at the Copenhagen University Hospital, with testing done at the University of Waterloo.

- [Omega-3: Why your fish oil supplements might not be fresh](#)
- ['Pregnancy brain' shows up big time in brain scans, study says](#)
- [Unexpected pregnancy and Zika fears prompt feud with Air Canada](#)

"We've long suspected there was a link between the anti-inflammatory properties of long-chain omega-3 fats, the low intakes of omega-3 in Western diets and the rising rates of childhood asthma," Hans Bisgaard of COPSAC [said in a release](#).

"This study proves that they are definitively and significantly related."

Fish oil versus olive oil

For the five-year study, 736 pregnant women were asked to take 2.4 grams of either fish oil or the placebo olive oil daily starting at 24 weeks of gestation.

The study was a double-blind test, meaning neither the researchers nor the women knew who was taking which supplement.

Researchers were able to follow up with 695 children for their first three years, and again when they were five years old.

The risk of asthma in the children whose mothers took fish oil was 16.9 per cent compared to 23.7 per cent for the children of mothers in the placebo group, the study found.

Asthma is a chronic inflammatory disease of the airways that can cause a shortness of breath, coughing, wheezing and tightness in the chest. Statistics Canada reported in 2010 that 8.5 per cent of the population aged 12 and older have been diagnosed with asthma.

The Asthma Society of Canada [reports](#) it is most common during childhood and affects at least 12 per cent of Canadian children and is a major cause of hospitalization.

Could help prevent asthma

Long-chain omega-3 fatty acids, which include eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), are found in cold water fish, the researchers said.

The study also involved testing the levels of EPA and DHA in the pregnant women's blood – testing that was led by Ken Stark, Canada Research Chair in nutritional lipidomics and professor in the faculty of applied health sciences at the University of Waterloo.

'Identifying these women and providing them with supplements should be considered a front-line defense to reduce and prevent childhood asthma.' - *University of Waterloo researcher Ken Stark*

He told CBC News the testing was comprehensive and thorough. The blood of the mothers was tested before, during and after they took the supplements.

The tests they did were a rapid analytical technique developed by Stark as a low-cost, quick alternative to traditional tests. The lab at UW is one of the few labs in the world equipped to run them.

Accuracy of testing

It was important to get it right because there have been many studies on fish oil where researchers were not as thorough, which has created confusion about whether fish oil is beneficial.

- [AUDIO: Researcher Ken Stark talks to CBC Kitchener-Waterloo about the fish oil tests](#)

"The neat thing about this study is the quality," Stark said. "One of the key things was actually using that blood indication so you really know who was taking it, who wasn't taking it."

The testing was able to show women with low blood levels of EPA and DHA at the start of the study benefited the most from taking fish oil – it reduced their children's risk of developing asthma by 54 per cent.

"The proportion of women with low EPA and DHA in their blood is even higher in Canada and the United States as compared with Denmark. So we would expect an even greater reduction in risk among North American populations," Stark said in a release.

"Identifying these women and providing them with supplements should be considered a front-line defence to reduce and prevent childhood asthma."

Future diagnostic

Using blood tests may be the future of medicine, he added.

"One of the neat things they talk about [in the study] is this concept that we could be getting into personalized medicine," Stark told CBC News.

"We actually take a small drop of blood, check a woman's blood levels and then we can actually do a diagnostic and target nutrition intervention based on what the mother's eating ... and we've done some of that."

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