

[Am J Clin Nutr.](#) 2008 Jul;88(1):167-75.

Fish oil intake compared with olive oil intake in late pregnancy and asthma in the offspring: 16 y of registry-based follow-up from a randomized controlled trial.

[Olsen SF](#), [Østerdal ML](#), [Salvig JD](#), [Mortensen LM](#), [Rytter D](#), [Secher NJ](#), [Henriksen TB](#).

Maternal Nutrition Group, Department of Epidemiology Research, Statens Serum Institut, Copenhagen, Denmark. sfo@ssi.dk

BACKGROUND: Evidence suggests that asthma is rooted in the intrauterine environment and that intake of marine n-3 polyunsaturated fatty acids (n-3 PUFAs) in pregnancy may have immunomodulatory effects on the child.

OBJECTIVE: Our aim was to examine whether increasing maternal intake of n-3 PUFAs in pregnancy may affect offspring risk of asthma.

DESIGN: In 1990, a population-based sample of 533 women with normal pregnancies were randomly assigned 2:1:1 to receive four 1-g gelatin capsules/d with fish oil providing 2.7 g n-3 PUFAs (n = 266); four 1-g, similar-looking capsules/d with olive oil (n = 136); or no oil capsules (n = 131). Women were recruited and randomly assigned around gestation week 30 and asked to take capsules until delivery. Among 531 live-born children, 528 were identified in registries and 523 were still alive by August 2006. Diagnoses from the International Coding of Diseases version 10 were extracted from a mandatory registry that recorded diagnoses reported from hospital contacts.

RESULTS: During the 16 y that passed since childbirth, 19 children from the fish oil and olive oil groups had received an asthma-related diagnosis; 10 had received the diagnosis allergic asthma. The hazard rate of asthma was reduced by 63% (95% CI: 8%, 85%; P = 0.03), whereas the hazard rate of allergic asthma was reduced by 87% (95% CI: 40%, 97%; P = 0.01) in the fish oil compared with the olive oil group.

CONCLUSION: Under the assumption that intake of olive oil in the dose provided here was inert, our results support that increasing n-3 PUFAs in late pregnancy may carry an important prophylactic potential in relation to offspring asthma.