

## **Maternal fish intake during pregnancy and atopy and asthma in infancy.**

Romieu I, Torrent M, Garcia-Esteban R, Ferrer C, Ribas-Fito N,

Anto JM, Sunyer J.

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National Institute of Public Health, Cuernavaca, Mexico.

**Background** There is growing evidence that n-3 fatty acids have anti-inflammatory properties and may modulate immune response. Dietary intake of these nutrients during pregnancy could play a role in the risk of asthma and atopy in the offspring. **Methods** Using data from a cohort of women (n=462) enrolled during pregnancy and whose offspring were followed up to 6 years, we evaluated the impact of fish consumption during pregnancy on the incidence of atopy and asthma. Dietary intake was assessed by food frequency questionnaire (42 items) applied by an interviewer. **Results** Thirty-four percent of infants had a medical diagnosis of eczema at age 1 year, 14.3% of the children were atopic [based on skin prick test (SPT) at 6 years], and 5.7% had atopic wheeze at age 6 years. After adjusting for potential confounding factors, fish intake during pregnancy was protective against the risk of eczema at age 1 year, a positive SPT for house dust mite at age 6 years and atopic wheeze at age 6 years [odds ratio (OR)=0.73 95% confidence interval (CI) 0.55-0.98, OR=0.68, 95% CI 0.46-1.01 and OR=0.55, 95% CI 0.31-0.96, respectively]. For an increase in fish intake from once per week to 2.5 times per week, the risk of eczema at age 1 year decreased by 37%, and the risk of positive SPT at age 6 years by 35%. Stratification by breastfeeding showed that fish intake was significantly related to a decrease risk in persistent wheeze among non-breastfed children (P for interaction <0.05). No protective effect was observed among breastfed children. **Conclusion** Our data suggest a protective effect of fish intake during pregnancy on the risk of atopy-related outcomes.

