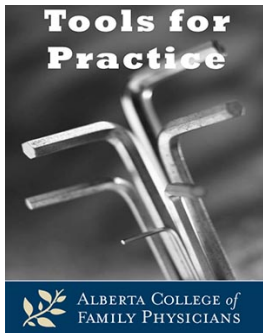


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Preventing Allergies with Omega-3 in Pregnancy: Another fishy idea?

Clinical Question: Can fish oil supplementation during pregnancy prevent allergic disease in children?

Bottom-line: Fish oil in pregnancy is likely ineffective at preventing allergic disease in offspring as decreases in either eczema, food allergies, or asthma in one study are generally not found in others and any positive effects seem to wane over time. Enthusiastic mothers could try fish oil supplements from ~20th week of gestation to delivery to prevent allergic disease in, at best, one in ~20 children.

Evidence:

- Four Systematic Reviews:¹⁻⁵ Cochrane best.¹
 - Eight Randomized Controlled Trials (RCTs) with 3,366 pregnant women given ~400-4,500 mg of fish oil daily starting gestational week 20-30. Frequently, child's parents/sibling had allergic disease.
 - 76 meta-analyses performed: Six statistically significant, with only four of those based on ≥ 2 studies, at 1-3 years.
 - Any allergy with sensitization (positive skin prick test): Rate Ratio (RR) 0.66 (0.44-0.98), Number Needed to Treat (NNT)=23.
 - Eczema with sensitization: RR 0.61 (0.39-0.95), NNT=23.
 - Sensitization to eggs or any allergen: RR 0.55 (0.39-0.77) and 0.70 (0.53-0.94), respectively.
 - Asthma, rhinitis, peanut allergies, and many others negative.
 - No increased risk of postpartum hemorrhage.
 - Most recent systematic review found similar.²
 - Three studies not included above:
 - New RCT of 695 children x6 years (mothers took 2.4 g/day fish oil or olive oil from ~24 weeks gestation):⁶
 - Persistent wheeze/asthma reduced, Hazard Ratio 0.69 (0.49-0.97), NNT=15.
 - No effect on other allergic outcome.
 - Two extended follow-ups of previous studies:
 - 533 children followed ≤ 24 years: Some outcomes (example asthma medications use) reduced versus placebo (olive oil) but not versus no supplement.^{7,8}
 - 706 children x6 years: Allergic disease 31% in both groups.⁹

Context:

- Fish oil contains the omega-3 or n-3 Long Chain Poly-Unsaturated Fatty Acids eicosapentaenoic acid and docosahexaenoic acid.
- Common adverse events include belching (41% versus 10%) and unpleasant taste (26% versus 4%).¹⁰
 - Some studies^{11,12} found ~10% more drop-outs but not consistent.¹⁰
- Fish oil supplementation in pregnancy remains debatable¹³ but some sites encourage fish/fish oil consumption,^{14,15} but women should review warnings around possible mercury contamination and excess Vitamin A with cod liver oil.¹⁵

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Disclosure:

Authors do not have any conflicts of interest to declare.

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