

Randomised clinical trials of fish oil supplementation in high risk pregnancies. Fish Oil Trials In Pregnancy (FOTIP) Team.

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OBJECTIVE: To test the postulated preventive effects of dietary n-3 fatty acids on pre-term delivery, intrauterine growth retardation, and pregnancy induced hypertension.

DESIGN: In six multicentre trials, women with high risk pregnancies were randomly assigned to receive fish oil (Pikasol) or olive oil in identically-looking capsules from around 20 weeks (prophylactic trials) or 33 weeks (therapeutic trials) until delivery.

SETTING: Nineteen hospitals in Europe.

SAMPLES: Four prophylactic trials enrolled 232, 280, and 386 women who had experienced previous pre-term delivery, intrauterine growth retardation, or pregnancy induced hypertension respectively, and 579 with twin pregnancies. Two therapeutic trials enrolled 79 women with threatening pre-eclampsia and 63 with suspected intrauterine growth retardation.

INTERVENTIONS: The fish oil provided 2.7 g and 6.1 g n-3 fatty acids/day in the prophylactic and therapeutic trials, respectively.

MAIN OUTCOME MEASURES: Preterm delivery, intrauterine growth retardation, pregnancy induced hypertension.

RESULTS: Fish oil reduced recurrence risk of pre-term delivery from 33% to 21% (odds ratio 0.54 (95% CI 0.30 to 0.98)) but did not affect recurrence risks for the other outcomes (OR 1.26; 0.74 to 2.12 and 0.98; 0.63 to 1.53, respectively). In twin pregnancies, the risks for all three outcomes were similar in the two intervention arms (95% CI for the three odds ratios were 0.73 to 1.40, 0.90 to 1.52, and 0.83 to 2.32, respectively). The therapeutic trials detected no significant effects on pre-defined outcomes. In the combined trials, fish oil delayed spontaneous delivery (proportional hazards ratio 1.22; 1.07 to 1.39, P = 0.002).

CONCLUSIONS: Fish oil supplementation reduced the recurrence risk of pre-term delivery, but had no effect on pre-term delivery in twin pregnancies. Fish oil had no effect on intrauterine growth retardation and pregnancy induced hypertension, affecting neither recurrence risk nor risk in twin pregnancies.