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Study finds mums and babies benefit from salmon intake

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Pregnant women can eat two servings of fish-farmed salmon each week, as it is beneficial to them and their children, according to a new study from Spain. The fish should be enriched with omega-3 fatty acids. Presented in the American Journal of Clinical Nutrition, the study was funded in part by the SIPS ('Salmon in pregnancy study)' project, supported under the EU's Seventh Framework Programme (FP7).

Researchers from the University of Granada in Spain observed that the consumption of salmon boosts omega-3 fatty acid levels in both the mother and child, and fuels their antioxidant defences. What triggers this increase in their fatty acid levels and defences? Selenium and retinol concentrations in salmon are responsible for the boost. They also found that salmon does not modify oxidative stress levels, inflammatory response or vascular homeostasis.

The researchers assessed subjects split into two groups: the 'salmon group' consumed 2 servings of 'treated' salmon from 20 weeks of gestation until term, and the control group maintained a regular diet.

The team provided the subjects with farmed fish, under a controlled diet that consisted of special ingredients like vegetable oils and food as algae and zooplankton. Thanks to this special diet, increased levels of omega-3 fatty acids along with high concentrations of antioxidant vitamins, such as vitamins A and E, and selenium, were found in the salmon. According to the researchers, the fish also contained very low contaminant levels.

The team also obtained blood and urine samples from both groups. All subjects completed a questionnaire of food habits at weeks 20 and 34 of gestation. The generated data would provide information about food intake during the previous 12 weeks. They took blood and urine samples again at week 38 of gestation, and at labour. The researchers also obtained cord blood samples once the babies were born.

Their findings show that omega-3 fatty acid concentrations improved when pregnant women ate two servings of salmon each week when they normally did not. They obtained similar results for the newborns. The end result is that two servings of salmon per week give mothers and babies the means to secure the minimum recommended omega-3 fatty acid intake.

The team also discovered that the biomarkers for lipid oxidation and oxidative damage to deoxyribonucleic acid (DNA) remained unchanged after the salmon was consumed.

In a nutshell, consuming two servings of salmon each week during pregnancy will not boost oxidative stress. Selenium and retinal concentrations also rose in the plasma of pregnant women, and selenium concentrations increased in the newborns.

For more information, please visit:

University of Granada: