

Oily fish consumption and *n*-3 fatty acid status in late pregnancy: the Southampton Women’s Survey

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Fatty acids have an important role in fetal growth and development, and requirements for long-chain PUFA, particularly the *n*-3 fatty acid (FA) DHA, are increased in pregnancy⁽¹⁾.

Oily fish is one of the richest sources of *n*-3 FA, including DHA. Current levels of oily fish and *n*-3 FA consumption in non-pregnant women in the UK are low compared with recommendations⁽²⁾. However, little is known about variations in *n*-3 FA intake and dietary influences on *n*-3 FA status in pregnant women in the UK⁽²⁾. The aim of this study was to describe variations in oily fish intake, and associations with plasma *n*-3 FA concentrations in women taking part in the Southampton Women’s Survey (SWS). At around 34 weeks gestation, venous blood samples were taken, and the *n*-3 FA content of plasma phosphatidylcholine (PC) determined using GC. Diet was assessed using an administered food frequency questionnaire that recorded the frequency of consumption of ‘oily fish’ in the three preceding months. Complete *n*-3 FA data were available for 1765 (89%) women who delivered before the end of 2003.

The median frequency of consumption of oily fish was once a fortnight; 36% of the women were consuming oily fish once a week or more. There were strong correlations between oily fish consumption and the percentages of EPA, DHA and total *n*-3 FA in plasma PC ($r = 0.264$, $r = 0.398$ and $r = 0.378$ respectively, all $P < 0.0001$) (see Fig. 1).

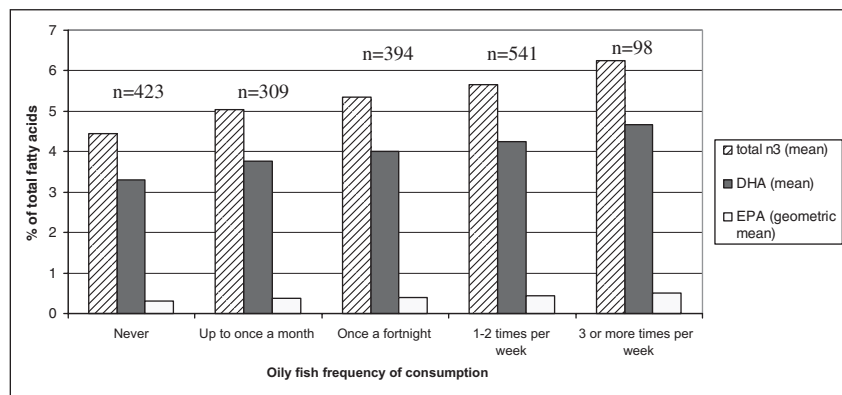


Fig. 1. Omega 3 FA status according to frequency of oily fish consumption.

This study shows that the consumption of oily fish in this population is low compared to SACN recommendations for pregnant women of one portion per week⁽²⁾. Furthermore, variation in oily fish intake is an important predictor of *n*-3 FA status in late pregnancy. Increasing oily fish consumption by pregnant women is likely to increase their *n*-3 FA status and this would be expected to be of benefit to fetal growth and development.

1. Hornstra G (2001) Importance of polyunsaturated fatty acids of the *n*-6 and *n*-3 families for early human development. *Eur J Lipid Sci Technol* **103**, 379–389.
2. Scientific Advisory Committee on Nutrition (2004) *Advice on Fish Consumption: Benefits and Risk*. Norwich: The Stationery Office.