Docosahexaenoic acid and post-partum depression – is there a link?

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Background – Cross cultural comparisons and ecological studies indicate an inverse association between the incidence of post partum depression and consumption of long chain omega-3 fatty acids, such as docosahexaenoic acid (DHA). However, evidence from prospective studies is lacking.

Objective - To determine is there is an association between major depressive symptoms and plasma DHA in a cohort of women at 6 months post-partum.

Design – A cohort of 380 women completed an Edinburgh Post-partum Depression Scale (EPDS) and had their iron, zinc and DHA status assessed. Perinatal and social characteristics were collected at the time of birth. Women were classified with symptoms of depression if they has a score of 12 or above on the EPDS.

Outcomes – Logistic regression analysis indicated that a 1% increase in plasma DHA was associated with a 59% reduction in reporting of depressive symptoms ($P<0.05$), while an increase in the length of hospital stay (at the time of birth) by 1 day was associated with a 19% increase in depressive symptoms ($P=0.07$). These associations need to be interpreted with caution because plasma DHA was positively influenced by maternal education and negatively influenced by maternal smoking.

Conclusions- Randomised trials with a DHA intervention are necessary to determine whether the association between DHA and depressive symptoms in the post partum period is causal.