

Eating salmon while pregnant affects contents of mother's milk

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(Medical Xpress) -- Mothers who eat more salmon before giving birth boost levels of a vital nutrient in their breast milk, but could lower levels of disease-fighting antibodies they pass on while feeding their baby, researchers have found.

Long-chain omega-3 fatty acids, found in oily fish such as salmon, are crucial during early childhood development when they are needed for optimal growth and development. As well as being important for the growth of a baby's brain and eyes, they may also help the development of healthy blood vessels, heart, and immune system. As a result, pregnant women are encouraged to eat several servings a week of certain kinds of oily fish known to provide high levels of omega-3.

However, very little is known about the influence of eating oily fish during pregnancy on the omega-3 fatty acid content of the mother's milk, and on immune substances, such as the antibodies passed from mother to baby during breastfeeding. The protection against infection that this provides to vulnerable [newborns](#) is one of the reasons why breastfeeding is strongly recommended by health professionals in the first months after birth.

A European consortium of researchers, led by the University of Reading and the University of Southampton in the UK, collaboratively conducted a dietary intervention study in which pregnant women were randomly assigned to eat their normal diet, or one high in salmon.

Researchers found that those mothers that had eaten salmon during the latter stages of their pregnancy increased the proportion of long-chain omega-3 fatty acids in milk throughout the first month after birth, but also lowered levels of secretory immunoglobulin-A (sIgA) - an important antibody that helps protect the newborn against infection.

Findings from the study are published in the August 2012 issue of [The Journal of Nutrition](#).

Lead researcher Parveen Yaqoob, Professor of Nutritional Physiology at the University of Reading, said: "Pregnant women in the UK are currently advised to eat one or two servings of oily fish a week, while limiting tuna and avoiding shark, swordfish and king mackerel. This is intended to balance the need for sufficient levels of omega-3-rich food while limiting foods that might contain high levels of mercury.

"While our study showed that [pregnant women](#) with diets high in oily fish passed on useful nutrients to their babies while breastfeeding, more research is needed to examine how the resulting lower levels of [antibodies](#) in breast milk could biologically affect young infants.

"From this study, it is positive to note that by following the current guidance on [oily fish](#) consumption during pregnancy, women can boost beneficial nutrients to help the early growth of their babies at a crucial stage of development. [Breast milk](#) contains a number of ingredients which contribute to immunity, and from this work we cannot say if the reduction in one type of antibody would have any effect on a baby's health."

More information: Urwin HJ, Miles EA, Noakes PS, Kremmyda L-S, Vlachava M, Diaper ND, Pérez-Cano J, Godfrey KM, Calder PC, Yaqoob P. 'Salmon consumption during pregnancy alters fatty acid composition and Secretory IgA concentration in human breast milk', *Journal of Nutrition* 142:1603-1610, 2012.
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