

Childhood obesity, rapid growth linked to pregnant moms eating lots of fish

February 15 2016



Juan Carreño de Miranda's "La monstrua desnuda" (The Nude Monster) painting.

Eating fish more than three times a week during pregnancy was associated with mothers giving birth to babies at increased risk of rapid growth in infancy and of childhood obesity, according to an article published online by *JAMA Pediatrics*.

Fish is a common source of human exposure to persistent organic pollutants, which may exert endocrine-disrupting properties and

contribute to the development of obesity. In 2014, the U.S Food and Drug Administration and the Environmental Protection Agency encouraged women who are pregnant, breastfeeding or likely to become pregnant to consume no more than three servings of fish per week to limit fetal exposure to methyl-mercury. There is no clear answer about the optimal amount and type of fish intake during pregnancy with regard to child growth and development.

Leda Chatzi, M.D., Ph.D., of the University of Crete, Greece, and coauthors analyzed data from 26,184 [pregnant women](#) and their children in European and U.S studies to examine associations with maternal fish intake and childhood growth and overweight/obesity. Children were followed-up until the age of 6.

Median fish intake during pregnancy varied between study areas and ranged from 0.5 times per week in Belgium to 4.45 times per week in Spain. High fish intake was eating fish more than three times per week, while low fish intake was once a week or less and moderate intake was greater than once but not more than three times per week.

Of the children, 8,215 (31 percent) were rapid growers from birth to two years of age, while 4,987 (19.4 percent) and 3,476 (15.2 percent) children were overweight or obese at ages 4 and 6 years, respectively.

Women who ate fish more than three times per week when they were pregnant gave birth to children with higher BMI values at 2, 4 and 6 years of age compared with women who ate fish less. High maternal fish intake during pregnancy also was associated with an increased risk of rapid growth from birth to 2 years and with an increased risk of overweight/obesity for children at ages 4 and 6 years compared with maternal fish intake while pregnant of once a week or less, the results indicate. The magnitude of the effect of fish intake was greater in girls than boys.

"Contamination by environmental pollutants in fish could provide an explanation for the observed association between high fish intake in pregnancy and increased childhood adiposity," the authors write. However, the authors note that while they collected information on the consumption of different fish types, they did not have enough data to distinguish between species, cooking procedures and the water source of the fish from rivers or the sea.

"Moreover, in the absence of information regarding levels of [persistent organic pollutants](#) across participating cohorts, our hypothesis that fish-associated contaminant exposure may play a role in the observed associations remains speculative," the authors write.

The authors conclude: "Our findings are in line with the fish intake limit for pregnancy proposed by the U.S. Food and Drug Administration and Environmental Protection Agency."

More information: *JAMA Pediatr.* Published online Feb. 15, 2016.
[DOI: 10.1001/jamapediatrics.2015.4430](https://doi.org/10.1001/jamapediatrics.2015.4430)

Provided by The JAMA Network Journals

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