Eating fish, not omega-3 supplements during pregnancy associated with lower likelihood of autism diagnosis

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Eating any amount of fish during pregnancy was associated with about a 20% lower likelihood of autism spectrum disorder (ASD) diagnosis,

particularly in females, and a slight reduction in autism-related traits in offspring, according to a new study.

However, researchers did not find the same association with supplements containing omega-3 fatty acids.

Fish is an important source of omega-3 fatty acids, an essential nutrient during pregnancy for supporting maternal health and child neurodevelopment. A recent analysis of ECHO Cohort data revealed that about 25% of the pregnant participants reported never eating fish or consuming it less than once a month during their pregnancy. Even fewer participants reported taking omega-3 fish oil supplements.

ECHO Cohort researchers wanted to see whether low fish consumption and omega-3 supplement use during pregnancy might be associated with the occurrence of an autism diagnosis or parent-reported autism-related traits.

"Our study contributes to a growing body of evidence that demonstrates the role that prenatal diet can play in autism-related outcomes in offspring," said ECHO Cohort researcher Emily Oken, MD, MPH, of Harvard Medical School.

Dr. Oken said the findings underscored the need for better public health messaging about guidelines for fish consumption for pregnant people, considering the low fish intake in the U.S. and the rising diagnoses of autism.

The work is published in *The American Journal of Clinical Nutrition*.

What happened during the study?

Researchers analyzed data from about 4,000 participants, examining the

relationships among fish intake, supplement use, and neurodevelopmental outcomes related to autism.

Fish consumption and omega-3 supplement use were measured with dietary information reported by participants. Participants' fish consumption was categorized as less than once a month, more than once a month but less than weekly, weekly, and two or more servings per week. About 20% of adult participants reported no fish intake, and most reported not using omega-3 or fish oil supplements.

The researchers then looked at the relationship between maternal fish intake and omega-3 fish oil supplement use during pregnancy and the occurrence of clinician-diagnosed autism and parent-reported autism-related traits. These traits were measured using the Social Responsiveness Scale (SRS), a widely used survey completed by parents or caregivers. Higher scores on the SRS indicate the presence of more autism-related behaviors.

Consuming fish during pregnancy was associated with a lower likelihood of offspring being diagnosed with autism and a slight decrease in total SRS scores compared to not eating fish. These results were consistent across all levels of fish consumption, from "any" amount or "less than once per week" to "more than twice per week." No significant associations were found between omega-3 fish oil supplements and autism diagnosis compared to no use.

Experts recommend that people consume additional omega-3 fatty acids during pregnancy. Prenatal fish intake is a key source of omega-3 fatty acids that are critical for fetal brain development. However, fish and omega-3 fatty acid supplementation in the U.S. is low.

"This study provides yet more evidence for the safety and benefit of regular fish consumption during pregnancy," said Dr. Oken. "Other

proven benefits include lower risk for preterm birth and improved cognitive development."

More information: Kristen Lyall et al, Association of maternal fish consumption and ω-3 supplement use during pregnancy with child autism-related outcomes: results from a cohort consortium analysis, *The American Journal of Clinical Nutrition* (2024). DOI: 10.1016/j.ajcnut.2024.06.013

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