Advice on Fish Intake in Pregnancy Sparks Debate

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A coalition that advocates for healthy pregnancies came under criticism after issuing an advisory urging pregnant women to eat more fish, based on an evidence review that received financial support from the fisheries industry.

In a statement issued Oct. 4, the National Healthy Mothers, Healthy Babies (HMHB) Coalition recommended that "women who want to become pregnant, are pregnant or are breast-feeding should eat a minimum of 12 ounces per week of fish like salmon, tuna, sardines, and mackerel, and can do so safely."

According to the HMHB Coalition, this strategy of eating ocean fish rich in omega-3 fatty acids will ensure optimal neurologic development in children, as well as reduce the risk of preterm labor and postpartum depression in mothers.

That advice is at odds with the recommendation of the Food and Drug Administration and the Environmental Protection Agency, which in 2004 advised pregnant women and breast-feeding mothers to eat no more than 12 ounces of fish a week because of concerns about mercury exposure.

Within days after the HMHB Coalition issued its report, at least two organizations that had been listed on its Web site (www.hmhb.org) as members—the American Academy of Pediatrics (AAP) and the National Institute of Child Health and Human Development—had been removed from the list.

The AAP "was not pleased" to be associated with the advisory, said Dr. Frank R. Greer, chair of the AAP's nutrition committee. The academy was part of the coalition at its inception, but has not been actively involved in the organization in recent years. It "knew nothing about this statement until it was released," said Dr. Greer, a professor of pediatrics at the University of Wisconsin, Madison.

The AAP continues to support the position that pregnant or lactating women should eat no more than 12 ounces of fish per week, he added.

The American College of Obstetricians and Gynecologists (ACOG) is a founding member of the Healthy Mothers, Healthy Babies Coalition. "However, ACOG was not involved in the development of the new recommendations. At this time, ACOG follows the FDA's recommendations on fish consumption for pregnant women," said a spokesperson for the college.

At press time, the HMHB Coalition included more than 60 organizations, including ACOG, the Centers for Disease Control and Prevention, and the March of Dimes. The advisory and supporting documents were posted online at www.brainybabieshealthykids.org.

Initial news reports about the advisory failed to mention that the coalition received funding from the National Fisheries Institute, including $14,000 for travel expenses for the Maternal Nutrition Group—a group of experts convened by the coalition—to meet and review evidence, and $60,000 to publicize the findings.

After the funding issue came to light, the coalition responded to criticism by placing a disclaimer on its Web site saying that "any statement that is supported by the HMHB Board in no way implies that it has been endorsed by our member organizations."

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Many pregnant women have reduced their fish intake well below beneficial amounts.

The coalition maintains that the funding source did not influence the opinion of its expert group, which was led by Dr. James A. McGregor, a visiting professor of clinical obstetrics and gynecology at the University of Southern California, Los Angeles.

"If you read the articles [that the Maternal Nutrition Group reviewed], you would come to the same conclusion," Dr. McGregor said in an interview. None of the supporting research studies were sponsored by the fisheries industry, he added.

Even before the potential conflict of interest came to light, some obstetricians said they weren't putting great stock in the suggestion.

"I would not use this recommendation to make any radical change in diet," said Dr. E. Albert Reece, a specialist in maternal-fetal medicine who is Vice President for Medical Affairs at the University of Maryland, Distinguished Professor, and dean of the school of medicine in Baltimore.

The HMHB Coalition said that it made the recommendation because studies show that women in the United States do not consume enough fish, and that the FDA advisory warning women about mercury contamination has further discouraged consumption.

Data from the National Health and Nutrition Examination Survey show that 90% of women are eating less than the amount of fish recommended as an upper limit by the FDA, the group noted.

Further, a study by Dr. William Goodnight of the Medical University of South Carolina, Charleston, found that of the pregnant women who were aware of the FDA's advisory to limit fish intake during pregnancy, 56% reduced their fish intake well below beneficial amounts.

A survey conducted by the HMHB Coalition found that 53% of women pregnant for the first time ate less fish during pregnancy because of the warnings about mercury.

Oily ocean fish are the major source of long-chain omega-3 fatty acids, such as eicosapentaenoic acid and docosahexaenoic acid, nutrients that are essential for fetal nervous system development. In rapid fetal growth, these fats are not synthesized by the human body in adequate amounts.

Inorganic mercury is a known neurotoxin that accumulates in fish, particularly large predator fish. In a well-documented incident in Minamata, Japan, which came to light in the 1950s, babies exposed to very high levels of mercury when their mothers ate contaminated fish developed brain damage and severe cerebral palsy.

But the question remains whether the benefits of long-chain omega-3 fatty acids might outweigh the risks of eating fish containing a lower level of mercury. (See box.)

Dr. Reece said it is possible for people who are worried about mercury or cannot eat fish to get omega-3 fatty acids from fish oil supplements. However, in its advisory, the HMHB Coalition said "consumption of ocean fish rather than ingestion of fish oil supplements is the best." ■

Researchers Net Conflicting Evidence on Mercury Risks

The Maternal Nutrition Group considered evidence that includes a growing body of literature indicating that the selenium present in fish flesh may counteract the potential negative impact of mercury exposure, and that omega-3 fatty acids may help prevent preterm delivery and postpartum depression.

The group also took into account a recent study of about 8,000 British mothers and their children. That study asked the women about their fish intake while they were pregnant, and then followed the children until they were up to 8 years of age.

The study reported that children of mothers who ate less fish were more likely to have suboptimal cognitive and developmental outcomes (Lancet 2007;369:578-85). The largest difference was in the scores on a verbal intelligence test, with only 16% of the 1,330 children of mothers who ate more than 12 ounces of fish per week scoring in the lowest quartile, compared with 31% of the 584 children of mothers who ate none. About 24% of the children whose mothers ate between 0 and 12 ounces scored in the lowest quartile.

The study also found a positive impact from fish consumption in the areas of prosocial, social, and fine motor development.

In a recent article on pregnancy and lactation unrelated to the coalition's new recommendation, Dr. Gideon Koren, of the University of Toronto, reviewed some of the evidence regarding mercury exposure from fish. He noted two studies.

One was conducted in the Seychelles Islands, where the usual diet contains about 10 times more ocean fish than does the average U.S. diet. The researchers set out to see if mercury exposure hurt neurologic development. Contrary to their expectations, they found that when they measured mercury levels in hair samples from the mothers and subjected the children to sophisticated testing, children with the highest mercury exposure tended to have the best scores on many measures of development at 66 months of age.

They speculated that perhaps the beneficial effects of fish consumption exceeded the possible detrimental effects of being exposed to mercury (JAMA 1998;280:701-7).

Subsequent follow-up has not shown that any difference in development was sustained, however.

The second study was conducted in the Faroe Islands, where individuals eat pilot whale, a species with high mercury levels. Those investigators did not find any mercury-associated clinical or neurophysiologic abnormalities in about 900 children at 7 years of age. But they did find some subtle reductions in neurologic function in the children with the highest exposures (Neurotoxicol. Teratol. 1997;19:417-28).

Those investigators subsequently found that electrical signaling in the brains of those with more mercury exposure appears to be somewhat delayed at age 14 years, suggesting that the effect of mercury may be irreversible. They found delayed signaling even in children exposed to amounts of mercury lower than the FDA limits.

"This new statement [by the HMHB Coalition] only adds to the confusion," said Dr. Philippe Grandjean, of the Harvard School of Public Health, Boston, who conducted the Faroe Islands study.

The coalition's advisory is too simple, he said. People should eat fish every week. But they probably should avoid the types of fish known to contain higher levels of mercury, such as tuna, swordfish, and shark. Safer fish are flounder, cod, mackerel, and salmon.

"Some people think that a pollution scare will prevent people from eating fish," he said. "I don't think so. The problem, rather, is that the FDA does almost no mercury testing, and it is almost impossible for the average consumer to obtain information on which types of seafood are high in mercury."