More DHA in Pregnancy Cuts Very Early Births in Half But Chance of Postpartum Depressive Illness Unaffected

Many studies from around the world support the recommendation for pregnant and nursing women to consume at least 200 mg of DHA (docosahexaenoic acid) per day. DHA is a long-chain omega-3 fatty acid found in fish and fish oil that is required for the proper development and function of the brain and retina. During pregnancy, large amounts of long-chain fatty acids are transferred from the mother to the fetus, with long-chain omega-3s (omega-3s) being among the most abundantly transferred.

A concern in Western countries is that most people, especially women of childbearing age, consume very little fish, the main food source of omega-3s. Consumption of omega-3s from all sources may be as low as 20 mg/day according to US survey data. By any standard, that is much too low. The effect of low seafood (or omega-3) consumption is that women tend to enter pregnancy with low DHA stores so they have less to pass on to the fetus. Studies in women who boosted their intake of omega-3s in pregnancy, usually through dietary supplements, showed that children's cognitive and behavioral performance is improved compared with the children of unsupplemented mothers. Visual acuity, attention and problem-solving are other aspects of infant development that have usually been better when mothers increased their consumption of omega-3s.

Less attention has been given to the effects of DHA or omega-3 supplementation on the mother. Increasing her stores of DHA before and during pregnancy means that she will lose less from her own tissues while providing for the fetus. Additional DHA throughout pregnancy makes it easier for the mother to replenish her own tissues after delivery. There is also some evidence, though it is mixed, that women with higher levels of DHA are less likely to develop postpartum depression. This condition can be debilitating.

A large study in Australia examined whether postpartum depression occurred less frequently in women supplemented with DHA in pregnancy compared with women taking a placebo. The women were provided 800 mg of DHA daily, about 4 times the recommended amount. This high level was chosen to ensure that women with habitually low omega-3 intakes would be adequately covered. The investigators evaluated the women's scores for depressive symptoms on a widely used rating scale at 6 weeks and 6 months after delivery. They also evaluated the cognitive development of the infants when they were 18 months of age.

At either 6 weeks or 6 months postpartum, the scores for depressive symptoms did not differ between the DHA-supplemented and placebo-treated mothers. Scores for women with a history of depressive illness were twice as high as in women with no history of the condition, but there was no difference in the scores between the treatment groups. Thus, this large study found no evidence that DHA supplementation in the last half of pregnancy affected a mother's likelihood of developing postpartum depressive illness.

Did a mother's intake of DHA affect her infant's cognitive scores? At 18 months of age, the infants' overall scores were no different between those whose mothers consumed DHA or placebo. This finding is similar to those of several other studies in healthy term infants, but differs from those using more specialized measures of learning such as attention. However, there was a difference between DHA supplementation and placebo in the language scores of the infant girls. Infant girls of the DHA-supplemented mothers had lower scores than the girls of placebo mothers and were more likely to have delayed language development. Girls of the DHA-supplemented mothers also had lower scores for adaptive behavior compared with the girls of the control mothers. None of these differences was seen in boys. What these differences might mean for later child development is unclear. For example, although the girls' scores for language were lower for those whose mothers consumed DHA, they were still higher than the boys' scores. It will be important to find out if these differences persist at a later age.

An important positive outcome of this study was the significant reduction in the number of babies born before 34 weeks' gestation. Infants of DHA-supplemented mothers had half the chance of delivery before 34 weeks' gestation as those of placebo mothers. Likewise, the number of infants born weighing less than 2,500 g (5 ½ lb) was significantly less. Early preterm and low birth-weight infants are at high risk of several complications, including delayed development, so these findings could have important health implications for pregnant women. There were also significantly fewer infant deaths or admissions to intensive care among the infants of the DHA-supplemented mothers.

Although this large clinical trial did not find significant effects of DHA supplementation on the occurrence of maternal postpartum depression, it observed important outcomes in lower early preterm delivery and very low birthweight infants. These observations have been reported in a few other reports, but may carry greater weight coming from such a large well designed study. In addition, these results in no way diminish the importance for pregnant women to consume sufficient DHA during pregnancy and lactation.

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