Reference:

Neurophysiologic and Neurobehavioral Evidence of Beneficial Effects of Prenatal Omega-3 Fatty Acid Intake on Memory Function at School Age


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Summary:

The primary purpose of the present study was to examine the relationship between omega-3 fatty acid status as estimated around the time of birth and subsequent memory function in school-age children in a fish-eating community. The study participants were school-aged Inuit children from the Nunavik region of Arctic Quebec (average age of 11 years, 58% females). For these children, measurements were available on the levels of omega-3 fatty acids including DHA (docosahexaenoic acid) in their cord blood as obtained from the umbilical cord at birth. The children were subjected to well-established neurobehavioral assessments of memory including intelligences scales and verbal learning testing.

Those children who showed higher cord blood levels of DHA omega-3 at birth exhibited a positive association with better performances on the memory assessments. The authors also reported upon the possible adverse effects of prenatal (before birth) exposure to mercury and PCB on memory. The authors stated that the 'current study was the first to document benefits of prenatal DHA intake on memory function in school-age children'.

Dr. Holub’s Comments:
The present study indicates that the higher intakes of DHA omega-3 fatty acid from pregnant women in fish- and seafood-eating populations and higher prenatal availability of DHA to the baby ‘in utero’ can have important beneficial effects for memory processing in their offspring up to 11 years later. The consumption of food sources rich in DHA omega-3 (and also EPA omega-3) should be encouraged during both pregnancy and childhood to support the optimization of cognitive performance. Furthermore, caution should be taken in selecting such foods to ensure protection against the ingestion of pollutants which may illicit any adverse effects.