Reference:

Fatty Acids and Sleep in UK Children: Subjective and Pilot Objective Sleep Results from the DOLAB Study- a Randomized Controlled Trial

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(The present report is filed on-site by the DHA/EPA Omega-3 Institute from the 11th Congress of the International Society for the Study of Fatty Acids and Lipids being held in Stockholm, Sweden)

Summary:

It is known that sleep problems in children are common. These have been associated with overall health challenges, behavioural and cognitive problems, along with other factors including a deficiency of long-chain omega-3 fatty acids such as DHA (docosahexaenoic acid). In the present research study, the potential benefit of DHA supplementation on sleep regulation was examined. For this purpose, 362 healthy children ages 7-9 years who were under-performing (lower third) in reading ability were randomly assigned to receive supplemental DHA omega-3 fatty acid (600 mg daily) or a 'placebo' (no DHA) for a duration of 16 weeks. Sleeping patterns were measured subjectively by CSHQ (Child Sleep Habits Questionnaire) as rated by the parents and objectively, in a subset of the children, by actigraphy using a watch-sized monitoring device.

While the subjective questionnaire did not show a benefit of DHA supplementation, the objective assessment via actigraphy indicated a significant improvement of sleep patterns in the children who were supplemented with DHA relative to those who did not receive supplemental DHA. The DHA-supplemented children had an average of 7 fewer wake episodes and 58 minutes more sleep per night. The presented findings suggested that higher intakes of DHA and correspondingly higher levels of DHA in the circulating blood may improve childhood sleep patterns.
Dr. Holub’s Comments:

When questioned by the audience as to the potential mechanisms by which DHA may be mediating these sleep effects, Dr. Richardson suggested that the polyunsaturated fatty acid status in the body (including the ratio of DHA omega-3 to AA, arachidonic acid omega-6) may regulate the production of melatonin. Melatonin is a hormone that helps control the sleep-wake cycle with natural levels of melatonin in the blood being highest at night. Dr. Richardson also mentioned that her research team are now investigating whether the improved sleep patterns in the children with the higher DHA status may be related to their behaviour and reading abilities. It is noted that the supplemental level of 600 mg DHA/day as used in the present trial is approximately 10-fold higher than typical dietary intakes in North American children but much closer to current intakes in many Japanese children. Future clinical trials are expected wherein the influence of increasing long-chain omega-3 fatty acid intake in adults who are being evaluated overnight at sleep clinics for insomnia or other sleep disorders will be assessed.