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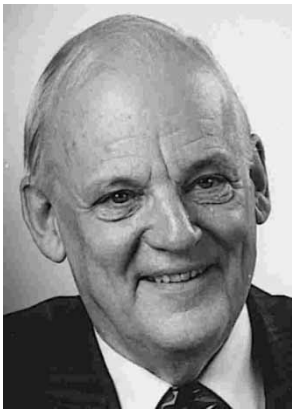

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Water intoxication—a dangerous condition

Frequent and high intakes of water, in excess of the body's needs, are dangerous. Many women today carry bottles of water from which they drink frequently, as Rolf Zetterström emphasizes in an invited commentary in this issue of Scandinavian Journal of Nutrition (SJN). Excessive water intake has been reported to cause water intoxication and hyponatraemia, with severe symptoms of elevated intracranial pressure (seizures) in healthy women and their newborn babies. Recently, four newborn babies in Sweden developed convulsions because of hyponatraemia. In the British Medical Journal (2003;327:113–4), Timothy Noakes reports on a female marathon runner who died after excessive water intake before and during exercise. Seven fatalities and more than 250 cases of overconsumption of fluids have been reported in the literature. How many unrecorded cases exist? A serious warning must be issued regarding overconsumption of fluid: trust the thirst and do not overdo the drinking.

Nutrition and the brain: important research for the future

During the past few decades many studies have focused on the impact of prenatal and postnatal nutritional factors on brain development and function, as well as the effect of impaired nutrition on cognitive impairment in the elderly. In this issue of SJN a series of articles is published on this topic. In the issue 2/2003 the effects of carbohydrate on behaviour and cognitive functions were presented, as well as the importance of omega-3 (n-3) fatty acids on behaviour.

Breast-feeding and brain development

Breast milk contains long-chain polyunsaturated fatty acids (LCPUFA), particularly the n-3 fatty acid docosahexaenoic acid (DHA), which accumulate in the neural cell membranes and retina during infancy. Studies have shown better visual acuity in breast-fed than in formula-fed infants. Differences in n-3 fatty acids between breast milk and infant formula may explain this difference. Kim Michaelsen et al. conclude that confounding factors cannot be ruled out, but most studies have found advantageous effects of breast-feeding on cognitive development. In formula fed infants, however, prospective long-term studies with and without LCPUFA are needed.

Iron deficiency and cognition

Iron deficiency affects cognitive function, motor development, learning and behaviour, as shown in both animal and human studies. The most vulnerable iron-deficient period in the infant is the first 2 years of life. Lena Hulthén refers to studies in Costa Rica, Chile and Israel. Important studies have shown a normalization of developmental scores in anaemic infants after an intervention with iron treatment for 4 months. These studies suggest that in some settings it is possible to reverse cognitive deficits in iron-deficient infants. The most important approach, however, consists of prevention programmes including the promotion of breast-feeding and thereafter complementary feeding with sufficient iron content for the growing infant.

Vitamin B_{12}, folate, homocysteine and cognition in the elderly

Impaired nutrition, malabsorption, diseases and medication in the elderly population are not unusual. In a review article, Johan Lökk refers to several cross-sectional and longitudinal studies showing low levels of vitamin B_{12} in subjects with Alzheimer's disease, for example, and in other types of dementia folate deficiency. Elevated homocysteine (Hcy) levels are often associated with impaired cognition. The interaction between vitamin B_{12}, folate and Hcy is discussed in the article. It is important for responsible doctors treating elderly people with impaired cognition to analyse vitamin B_{12}, folate and Hcy, and to be liberal in their attitude towards vitamin B_{12} and folate treatment of the individual patient.

 ISSN 1102-6480

DOI: 10.1080/11026480310016908