



LEARNING FACTORS® SCHOOL·AID™

Supports brain development and visual function

"I can't stop squirming." "I can't pay attention." "Why don't people like me?" "Why is my teacher so upset?" As parents and children anguish, the only answer seems to be powerful drugs that calm and quiet, too often with unpleasant side-effects. Is there anything else we can do for our children with behaviour and learning problems?

Research shows a link between learning, behaviour, concentration and essential fatty acids. Children diagnosed with attention deficit hyperactivity disorder (ADHD) and dyslexia often have lower levels of key essential fatty acids when compared to their more fortunate counterparts. Adding these "good" fats into the diet of these children can make a real difference. Even adults with learning problems can benefit. The research is still evolving, and yet remarkable.

Learning Factors School-Aid is a blend of essential fatty acids and antioxidants for optimal brain and visual performance. These fatty acids are called essential because they must be provided in the diet since the body cannot consistently make them. Docosahexaenoic acid (DHA) is a derivative of essential omega-3 fatty acids. Less well-known but also important are the omega-6 fatty acid derivatives, gamma linolenic acid (GLA) and arachidonic acid (AA). When these essential fatty acids are added to the diet of some hyperactive children they seem to calm right down.

DR JACQUELINE STORDY'S RESEARCH

Noted researcher Dr. Jacqueline Stordy has had much success with a combination of fish oil and evening primrose oil. She notes that children who take sources of both essential fatty acids become calmer and their reading skills improve. "A dietary supplement based on my research and developed specifically to help maintain eye and brain function, is a careful combination of DHA-rich fish oil and GLA-containing evening primrose oil. People who take this supplement have shown improved reading speed, are calmer and find life altogether easier. And we have discovered that when parents stop giving their children the supplement, after a few weeks their behaviour or learning ability drops off again. The supplement is not a cure; it is a natural help for people who are deficient in long-chain fatty acids." (Stordy)

LEARNING, BEHAVIOUR AND DHA

Researchers at Purdue University have also shown that children who are hyperactive, impulsive, and inattentive, may have low levels of essential fatty acids, especially DHA.

The experiment involved 53 boys who suffered from ADHD compared to 43 matched controls. Analysis showed that the boys with ADHD had significantly lower levels of essential fatty acids in their blood. The researchers concluded that, although more research was needed, supplementation with missing fatty acids could be a useful treatment for hyperactivity. Many of the hyperactive children also had other symptoms of fatty acid deficiency, such as dry hair and skin, thirst, frequent urination, and were more likely to have asthma and ear infections. (Stevens, *et al.*)

WHY SOME CHILDREN DEFICIENT IN DHA

Some children may get enough of the shorter chain omega-3 and omega-6 fatty acids but they have difficulty converting them into the needed longer chain fatty acids such as DHA and AA. Factors that inhibit the conversion of essential fatty acids to their healthful metabolites are trans fatty acids in the diet (fats produced when hydrogen atoms are added to unsaturated fats for improved shelf life; this process destroys their nutritional value and even makes them harmful), viral infections, and even stress. Fish oil and evening primrose oil supply these important fats directly.

DHA, THE BRAIN FATTY ACID

DHA's importance begins in the womb. It is a major fatty acid in the brain of the developing fetus and a primary fatty acid in breast milk. DHA comprises as much as 60% of the fatty acids in the retina of the eye.

Evidence is mounting that breast fed infants do better than their formula-fed counterparts. A study in the January 1998 issue of *Pediatrics* showed that breast-fed infants may have higher intelligence and greater academic achievement than formula-fed infants. The 18-year study compared IQ measurements and rates of high school completion in 1,000 children. After all factors were taken into account, breast-fed babies were 38% more likely to graduate from high school. DHA may be the missing link. It is found in breast milk but not always in formula. According to the researchers "exposure to breast feeding is associated with small but detectable increases in childhood cognitive ability and educational achievement, with it being likely that these increases reflect the effects of long-chain polyunsaturated fatty acid levels, and particularly DHA levels, on early neurodevelopment." (Horwood, *et al.*)

To make sure that breast milk is rich in DHA, expectant women and nursing mothers may also wish to supplement with a good source of essential fatty acids such as Learning Factors School-Aid.

Researchers at the University of Milan reported that infants fed DHA-supplemented formula had better brain development and visual acuity than infants who did not receive DHA in their formula. They recommended that infants should receive DHA-enriched formula. (Agostoni, *et al.*)

ESSENTIAL FATTY ACIDS AND DYSLEXIA

Dr. Stordy was particularly interested in dyslexia because in her own family many were dyslexic. She noticed among her family that those who were breast fed the longest were the least affected by dyslexia. "My research on young adults with and without dyslexia showed that dyslexics have poor dark adaptation, which is a function of the DHA-rich rod cells of the retina. However, supplementation with a high-DHA fish oil restored dark adaptation to normal. Synapse membranes, the junctions between nerve cells, contain high concentrations of DHA and AA, and these fatty acids are important for efficient conduction of messages from one nerve cell to another." (Stordy)

DHA AND AGGRESSION

Researchers wanted to determine if DHA would have any effect on aggression in young adults. At the start of summer vacation 41 students were given either DHA-rich oil capsules (containing 1.5-1.8 grams DHA per day) or a placebo (97% soybean oil and 3% fish oil). The students took psychological tests at the beginning and at the end of the study. The study began during summer vacation, and ended during final exams, a very stressful time. In the control group aggression against others was "significantly increased at the end of the study as compared with that measured at the start, whereas it was not significantly changed in the DHA group. Thus, DHA intake prevented extraggression (aggression against others) from increasing

at times of mental stress." (Hamazaki, *et al.*)

FISH OIL AND EVENING PRIMROSE OIL – AN "ESSENTIAL" COMBINATION

Tuna fish oil is a high quality source of concentrated DHA (containing up to 25% DHA) and arachidonic acid (AA). Evening primrose oil contains hefty amounts of gamma linolenic acid (GLA), an essential fatty acid needed to make AA.

ANTIOXIDANT POWER WITH THYME AND VITAMIN E

Learning Factors School-Aid contains both thyme and vitamin E, superior antioxidants that protect the fragile essential fatty acids from oxidation. Older children and adults can benefit from 4 capsules of Learning Factors School-Aid a day, to be taken with meals. This provides a high quality source of essential fatty acids that is safe for long term use.

The essential fatty acids in Learning Factors School-Aid may supply a missing component in the diet of children with learning and behaviour problems, helping both parents and children to enjoy a better quality of life. Check the research for yourself and discuss with your health care practitioner, a program that incorporates these essential fatty acids.

KEY REFERENCES

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