ATTENTION DEFICIT
AND
HYPERACTIVITY DISORDERS

take from an article by Dr. Lawrence Wilson

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Today one out of every five children is diagnosed with a behavior or learning disorder. It is often a nightmarish experience for both parents and children. Also, the problem does not necessarily end when the children grow up. It is sometimes just renamed delinquency or other social anxiety problems. Medication, psychotherapy, special education, and more prisons and police may help control the situation. But none of these methods address **causes.**

In my experience, ADD and ADHD are not a single disorder, but rather are symptoms with many possible causes. The causes can be divided into those from outside a person, and those from within. Outside influences include factors such as the family, home and school environments.

Internal causes include **structural, biochemical, congenital, genetic or other bodily imbalances.** Factors such as nutrition and brain chemistry are often overlooked. In addition to vital nutrient deficiencies, toxic metal excesses, hypoglycemia, chronic yeast infection, central nervous system allergies, this article discusses the effects of stimulants in the diet, congenital imbalances, the effects of medications, and a faster-than-normal metabolic rate.

MINERAL AND VITAMIN DEFICIENCIES

Calcium, magnesium and zinc are deficient on the tissue mineral analyses of many ADHD children. Supplementation with these minerals alone may occasionally end hyperkinetic behavior. I have heard this comment from so many parents that I am no longer surprised. Recently, a mother called to say her daughter had transformed within a month from a nasty, mean 4-year-old into a sweet child. She said it was like getting to know a different child.

Calcium and magnesium help relax the muscles and have a calming effect on the nervous system. Magnesium deficiency is associated with belligerence and irritability. Many ADHD children are tired, because they have trouble going to sleep or staying asleep. This only adds to their difficulties. Calcium and magnesium also function as psychological buffer elements. This means they protect one from the effects of stress. When they are deficient, one is more reactive, and often has a harder time being around others and maintaining a focus of attention.

The high salt content of many fast foods such as chips and French fries may reduce

magnesium levels, worsening magnesium deficiency.

Zinc functions as a mood stabilizer. Some researchers actually consider it a calming neurotransmitter in its own right. In the absence of adequate zinc, copper and cadmium accumulate in the brain and other organs. Unfortunately, many diets are low in zinc, and many children today are born low in zinc due to their mother's diets. According to Dr. Eck and Carl Pfeiffer, MD, PhD, author of *Mental and Elemental Nutrients*, the entire American population is borderline zinc deficient. Other trace elements such as manganese and chromium also play a critical role in behavior because they influence glucose tolerance.

Lithium is known to reduce manic episodes in manic-depressive or bi-polar disorder. Some physicians have noted that serum or hair lithium levels are low in most children with ADD and ADHD. Supplementing lithium in the form of lithium orotate has proven helpful for some children.

Iron deficiency has been implicated in ADD, according to a French study (Pedrr Neurol 08;38:20-26). According to the study, a group of 5 to 8 year old children were given either 80 mg of iron or a placebo for 12 weeks or about 3 months. Those given the iron had significantly better ADD scores, while those on the placebo had no change. The improvement was comparable to children given Ritalin or other ADHD drugs.

Other studies have shown that ADHD children have low serum levels of iron. This is an interesting finding because iron improves the sodium/potassium ratio just, as, we believe, does the ADHD drugs such as Ritalin, Adderal and others.

However, iron is also toxic at these doses, and one cannot stay on a dose of 80 mg/daily for a young child for too long without causing other side effects.

Vitamin nutrition is no less important. Early in this century, a deficiencies of the B vitamins was found to be associated with mental confusion, fatigue and even psychosis. In 1950, Abram Hoffer, MD, a Canadian psychiatrist, discovered that some people need much larger doses of certain vitamins due to subtle defects in body chemistry. This approach is called orthomolecular medicine. It means giving the amounts of a nutrient that each person needs, rather than simply giving the RDA of a nutrient.

Supplementation with choline and inositol has been found helpful for some younger hyperactive and ADHD children. Amino acids such as L-taurine and L-tryptophan often also have a calming effect on some children. Phosphatidyl serine has also been found helpful for some children.

TOXIC METALS

The effects of toxic metals on children's behavior have been known for years. In May l987, The Lancet reported that in a study of 800 English school children, the more lead in the children's blood, the slower their learning rate. Researchers also found that there was no safe level of lead. Excess lead is associated with mental retardation and hyperactivity.

Mercury toxicity is known to affect personality and behavior. The "mad hatters" in Alice in Wonderland were a real phenomenon 100 years ago, when mercury was used in

the hat industry. Vaccinations are still preserved with thimerosal, a mercury-containing compound. This is an abomination of the worst kind.

A study reported in the Journal of Orthomolecular Medicine found no safe level of mercury. Yet millions of silver-mercury fillings are still placed in Americans' mouths each year, many in children. Mercury amalgam fillings are treated as toxic waste when they are removed by dentists. With modern dental materials, there is no excuse for placing a potent neurotoxin in anyone's mouth!

Cadmium. In a study of naval recruits, those with high cadmium had the most behavior problems. When tissue mineral analysis is performed on criminals, many have elevated levels of cadmium and lead. This is reported in the book Diet, Crime and Delinquency by Alexander Schauss, PhD. Sources of cadmium exposure in children include tap water, refined foods and cigarette smoke. Many children are born with cadmium toxicity passed on from their mothers.

Aluminum toxicity may also impair some cognitive abilities in children, in the author's experience. Children are born with it or acquire it from drinking out of aluminum soda cans, or aluminum cookware, or aluminum added to tap water, table salt and other products.

Copper. Analytical Research Laboratories in Phoenix, Arizona has performed mineral analyses on over 130,000 children. In addition to the toxic metals above, copperimbalance is commonly found in the hair analyses of ADHD children. The copper is often passed through the placenta to the children at birth. Copper interferes with zinc metabolism, affects thyroid activity, and enhances the biogenic amines. These are neurotransmitters that stimulate brain activity. Copper is also an important substance to control yeast overgrowth within the body.

Dr. Carl Pfeiffer, MD, PhD and Dr. Paul Eck have documented the effects of excess copper. They include hyperactivity, mood swings, anxiety, panic attacks, depression and anti-social behavior. Copper stimulates the old brain or diencephalon. This is sometimes called the animal brain, as compared to the cortex or new brain. The old brain is responsible for our 'animal' responses, while the new brain modifies these responses. The latter is responsible for complex thought and the higher emotions. Those with copper imbalance may revert back toward primitive animal responses to their environment.

After reviewing 400 studies, The U.S. EPA concluded that hair tissue mineral analysis is a reliable way to detect toxic metal excess. However, one must remember the test only measures metals in the hair, not the total body load. It may take several months of corrective therapy before the metals begin to be revealed as they are eliminated through the hair.

HYPOGLYCEMIA AND BEHAVIOR

Hypoglycemia in children is quite common. Diets high in sugar and carbohydrates, often combined with caffeinated beverages, can cause a child to experience a blood-sugar roller coaster every single day.

Although hypoglycemia means low blood sugar, the symptoms arise from low

sugar in the cells. For this reason hypoglycemia is not always identifiable on a glucose tolerance test unless insulin levels are measured along with glucose levels.

Eating sugar may have other negative effects, such as altering calcium and phosphorus levels, and fueling the overgrowth of yeast in the intestines of some children. Sugar enters the blood stream very rapidly. This speeds up the metabolic rate, which is already excessive in many children with ADHD. Sugar is also a refined food that can contribute to the depletion of the minerals and B-complex vitamins needed to process it.

Some parents feed their children sugar-laden foods out of ignorance or laziness. Others, however, think they are doing the right thing by feeding their children natural, unsweetened apple juice and lots of fruit. They feel that natural sugar is better than sucrose or fructose in processed food. The only advantage of the natural food sugars is that they come with some minerals and vitamins. However, the sugar is the same. It will cause problems for any child who is sensitive to it. Parents are often amazed at the improvement in behavior when all sugars (simple carbohydrates) are removed from the diet.

THE YEAST CONNECTION

Chronic yeast overgrowth can cause many symptoms in susceptible children, including behavioral changes. A combination of factors lead to the overgrowth of the common yeast, candida albicans, in many children. Among them are diets high in sugar and carbohydrates, repeated use of antibiotics that kill the normal intestinal flora and may impair the immune system, steroid hormone therapy and copper imbalance. Even in those children who have not had repeated doses of antibiotics, residues of the same drugs may be ingested today in commercial meats and dairy products. Residues of steroid hormones fed to farm animals may also enhance the yeast problem. A recent report suggests these medications may even find their way into our drinking water (Science News, March 21, 1998).

Alcohol and acetaldehyde produced by yeast organisms are toxic to the brain. They can lead to "brain fog" and hyperactive behavior. It is also possible to have allergic reactions to the yeast organisms or to its metabolic products.

A combination of yeast overgrowth and hypoglycemia may cause a physical addiction to sugar or sugary foods. This can affect childhood behavior, and lead to more serious conditions such as alcoholism in the teenage years and adulthood. An excellent book on this topic is The Hidden Addiction, by J.K. Phelps, MD and A. Nourse, MD.

CENTRAL NERVOUS SYSTEM ALLERGIES

Reactions to foods, chemicals, dusts, molds or other substances can cause changes in brain chemistry and behavior. They may cause histamine release in the brain, or affect it in other subtle ways.

Benjamin Feingold, MD, a San Francisco allergist, wrote Is Your Child Hyperactive? some thirty years ago. He found that by eliminating sugar, additives and

preservatives from hyperactive children's diets, half the children reverted to normal behavior.

He pioneered the idea that some children have allergic reactions to common food colorings and additives that affect their behavior. His research has been greatly expanded upon and reported in Is This Your Child's World?, by Doris Rapp, MD. Today, children are exposed to a wide variety of toxic chemicals in their food, water, home and school environments. Matters have been made much worse by the use of carpeting in schools, buildings with no openable windows and the increase in toxic building materials and cleaning products. In spite of much clinical research, some medical groups still deny the very existence of these allergies or sensitivities.

STIMULANTS IN THE DIET

Children have very sensitive nervous systems. Yet many children daily consume huge doses of stimulating caffeinated soft drinks. The author once gave a talk at a school. A 12-year old announced he was taking Ritalin as he sipped a bottle of Dr. Pepper, one the most caffeine-rich drinks available. The soft drinks may also contain up to 10 teaspoons of sugar, as well as phosphoric acid, a compound that interferes with the absorption of calcium, magnesium and zinc. These are often exactly the minerals these children need the most.

The heavy content of salt and MSG in many fast foods and spicy food may also act as stimulants that affect the delicate nervous system of some children. Aspartame, also called Equal or Nutrasweet, is another toxin that affects behavior in some who eat or drink items with this additive.

BORN SICK

Tissue mineral analysis indicates that many children are born today with excessive levels of toxic metals, and deficiencies of vital nutrients such as zinc and manganese. Toxicology books confirm that lead, cadmium, copper, and other toxic metals pass through the placenta from mother to child. Children are described as "sinks" for these metals.

Animal studies reveal that the results of poor diets or ingested toxins often don't show up immediately. It may take several generations before problems start appearing. The situation in America today is that several generations have lived on devitalized food and been exposed to many chemicals and low-dose radiation. The effects are showing up in this generation of children.

MEDICATION AND VACCINES

Many children suffer from the use of antibiotics, sometimes beginning the day they are born. These damage the normal intestinal flora and weaken other body systems as well. The negative effects may persist long after the antibiotic therapy. A combination of antibiotic usage, copper imbalance, antibiotic residues in meat, and a high-sugar diet forms the perfect environment for candida albicans overgrowth.

Antibiotic overuse also contributes to resistant microorganisms and chronic infections. Chronic infections can contribute to fatigue, irritability and poor concentration. These cause children to miss school, affecting school performance. Parents often remark their child no longer gets sick so often when they are following a corrective nutrition program. An excellent book on this subject is *Beyond Antibiotics* by M. Schmidt, DC, L. Smith, MD and K. Sehnert, MD.

There is research that vaccination and other medications may also affect children's behavior. For example, there has a dramatic rise in autism, a condition somewhat related to ADHD. Is there a connection with the fact that the average child in America now receives some 28 vaccines, when 50 years ago they received perhaps 8? Many researchers believe there is a connection, and more evidence is surfacing to support it...

FAST METABOLISM AND ADD

Most young children with ADHD are fast oxidizers. On a hair tissue mineral analysis, this is reflected in low levels of calcium and magnesium and elevated levels of sodium and potassium. This mineral pattern is associated with excessive activity of the thyroid and adrenal glands. While the pattern is common in children, it is often pronounced in ADHD children. A fast metabolic rate contributes to a short attention span, hyper-irritability, and often aggressiveness and belligerence.

Fast oxidizers are also allergy-prone. Low calcium and magnesium may enhance cell permeability, which permits foreign proteins to pass into the blood causing allergic reactions. Fast oxidizers are also prone to hypoglycemia, as they burn their food more rapidly than normal.

These children are made worse by sugar and all sweets, which further speed up their metabolism. This includes fruit and fruit juices. They benefit from good-quality fats and oils, which have a slowing effect on their metabolism.

Many parents are afraid to give their children fats for fear of obesity or raising cholesterol. In fact, children need good-quality fat, an essential nutrient for the development of their nervous system. Natural, hormone-free meats, omega-3 fatty acids are essential, eggs from range-free chickens prepared with a runny yolk, certified raw dairy products, butter, olive oil, nut butters, and perhaps a little avocado and flaxseed oil and other high-quality fats and oils are very beneficial for these children. They do not cause increased cholesterol or obesity in most children provided the diet is healthful and appropriate.

Stress further increases the oxidation rate. Stress can take the form of too much television, too much activity, or even too many children in a classroom. Fast oxidizers easily become 'wound up' and need peace and quiet to function best. Chronic overstimulation in these children leads to its opposite, a 'burnout' condition which is becoming more common in children. Correcting fast oxidation is another key to ADHD that is routinely overlooked, but fairly simple and inexpensive to correct.

IMPROVED GRADES WITHOUT SUGAR

Between 1979 and 1983, the New York City School System removed the sugar, additives and preservatives from its school lunch program. This change alone produced a 15% increase in performance on standardized tests. School performance in the New York City School System moved from below national average to above national average. This study was well-controlled, and involved 800,000 children. Other reasons for the outcome were carefully ruled out. (see Schoenthaler, S. *International Journal of Biosocial Research* 8/2:185-195, 1986).

WHAT TO DO?

Prevention must start now! Mothers, and potential mothers, begin NOW to eat well, quit smoking and, if you feel the need, have your body chemistry checked. Do this before becoming pregnant, because it takes time to bring body chemistry into balance. The father's role in prevention is not as clear, although genetic problems are of course passed on from both parents.

If you have a child with a learning or behavior disorder, simple measures can make a big difference:

· Feed your child a variety of fresh, organically grown, minimally processed foods. Take the time to prepare and eat regular, sit-down meals.

· Keep your child away from all sugars in all foods, including many breakfast cereals and snack foods. Even unsweetened fruit juices and fruit cause problems in sensitive children and should be avoided or minimized.

· Avoid giving children soda pop and other 'junk foods', even if they contain no sugar and no caffeine. These foods contain little nutritive value and can contribute to deficiencies. You are not depriving your child. Explain to the child why. Many children will understand that they feel better off the junk food.

· Don't overfeed on starches. They can worsen blood sugar imbalances and yeast problems in some children. Good quality fats and oils can be very beneficial. Many children need the fats and oils in their diet.

· Many children are sensitive to food additives. Try eliminating additives, preservatives, artificial colors and flavors, and Nutrasweet. You may notice an improvement in behavior.

· Most children are sensitive to particular foods. Keep all children away from wheat and beef, for starters. These are not very healthful foods today. Keep a journal for two weeks what your child eats, and his behavior afterwards. Pasteurized and homogenized dairy products are also often a problem. Food allergy testing may also be helpful.

· A trial with an anti-candida medication and diet can sometimes work wonders.

· A nutritional balancing program includes all the above, plus will go much deeper to remove two dozen toxic metals and hundreds of toxic chemicals. It will also replenish dozens of trace minerals that all children require.

ENVIRONMENTAL CORRECTION

Some ADHD children (and adults) are highly sensitive to toxic chemicals in their environment, dust and molds in carpets and heating ducts, flickering fluorescent lights, and lack of fresh air in closed school buildings or homes. These and other environmental considerations may play an important role in some cases of ADHD.

ADHD children need a structured and friendly environment. Daily activities should be structured. This does not mean to be rigid, but simply to encourage and set up routines and schedules that the child can follow and live and play within. This will be found to be most helpful. Some schools encourage structure and routine, while others do not.

ADHD children often do best in small classes, with plenty of personal attention. Many are very bright and perceptive, and may become bored in school environments that are inappropriate for them. ADHD children also need plenty of rest and sleep. Naps and quiet times are excellent.

Avoid getting these children wound up, especially in the evening. Minimize violent films, video and computer games, as much as possible. Encourage quiet activities, play quiet music in the home, and a relaxed home environment. Do not push these children to perform, as that will generally make them more anxious.

OTHER NATURAL THERAPIES

Chiropractic may benefit a child whose spine is out of alignment. This is easy to check, and the younger the better before patterns become deeply set. Craniosacral work is another excellent healing modality.

There are many other holistic modalities that may be helpful, from aromatherapy to light, color and sound therapies.

WHAT ABOUT RITALIN?

Methylphenidate hydrochloride (Ritalin) is a central nervous stimulant given to many ADHD children. The Physicians Desk Reference states there are no long-term studies of its safety and effectiveness. The drug carries a special warning of drug dependency and psychotic episodes. In addition, "careful supervision is required during drug withdrawal, since severe depression as well as the effects of chronic overactivity can be unmasked."

In a review of the drug at the University of Cincinnati Medical School, 111 side effects were reported, including suicide on withdrawal. The drug suppresses growth, makes some children more prone to seizures, causes visual disturbances, nervousness, insomnia, anorexia nervosa and toxic psychosis. One study showed that children treated with such stimulants had more arrests and were more likely to be institutionalized.

The American Textbook of Psychiatry notes that as many as 75% of children show some improvement on Ritalin. However, 40% reported the same improvement when given a placebo. This suggests that half the response to Ritalin could be a placebo effect.

In his practice, the author never takes a child off medication without the prescribing

physicians' or parents' agreement. Nutritional methods may work quickly, but at times several months may be required to replenish nutrients, and rebalance body chemistry.

CRIME AND DELINQUENCY

This article would not be complete without noting the connection between children's behavior problems and those of young adults. It is no accident that both problems have escalated together. Hair tissue mineral analyses on delinquents and adult offenders reveal similar nutritional imbalances as are present in ADHD children.

An excellent book on this subject is *Diet, Crime and Delinquency* by Alexander Schauss, PhD. The book cites many studies showing a clear relationship between nutrient deficiencies, toxic metals, hypoglycemia, food allergies, junk food diets and criminal behavior. As we spend more money for prisons and police, would it not be wise to examine causes, instead of always dealing with effects?

CONCLUSION

In the author's experience, most children with ADHD have one or more of the following nutritional imbalances: mineral and vitamin deficiencies, toxic metal accumulation, stimulants in the diet, junk food or other improper diet, hidden infections, chronic candida albicans infection, food or environmental allergies, or a rapid rate of metabolism. Often nutritional imbalances were passed on at birth - congenital but not genetic. Some children also have structural imbalances correctable through chiropractic or osteopathic methods.

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