THE CENTRE FOR HEALTHY LIVING
CAN DO PROGRAM

Biomedical Herbs and Supplements

Why focus on health first?

There is an increasing research base for the use of biomedical herbs and supplements in autism and ADHD. Their use is directed to:

- balance or compensate for genetic and developmental vulnerabilities,
- arrest the ongoing changes caused by the environmental factors.
- address other problems that might that might be impacting on the overall health of the child and his or her brain function in a gentle way.

Herbs improve immune function which may be over- or under-active.

The brain may become 'miswired' because of exposure to toxins, pesticides, food sensitivities or lack of key nutrients.

The science

The CAN DO Program builds on the five stages of neuroplastic healing as outlined by Norman Doige in his book "The Brain's Way of Healing":

1. Correct the general cellular health of neurons and glia
2. Neurostimulation
3. Neuromodulation
4. Neurorelaxation
5. Neurodifferentiation.

In the CAN DO Program, biomedical herbs and supplements are the first phase of treatment aimed at restoring physical health and in particular brain health. They are continued throughout the Program. Dr Doidge states that it makes sense to restore the cellular health of the brain before attempting other aspects of treatment. When affected nerve cells in the brain are restored to cellular health, a great deal of the "noise" they emit is quietened, making the person's nervous system less disrupted and more amenable to the next four stages of neuroplastic brain healing.

Russel Blaylock, neurosurgeon and researcher, published a report in 2012 about the use of natural plant products and extracts to reduce neurodegeneration and promote repair within the central nervous system. He states:
"Our understanding of the pathophysiological and biochemical basis of a number of neurological disorders has increased enormously over the last three decades. Parallel with this growth of knowledge has been a clearer understanding of the mechanism by which a number of naturally occurring plant extracts, as well as whole plants, can affect these mechanisms so as to offer protection against injury and promote healing of neurological tissues. Curcumin, quercetin, green tea catechins, balcalein, and luteolin have been extensively studied, and they demonstrate important effects on cell signaling that go far beyond their antioxidant effects. Of particular interest is the effect of these compounds on immunoexcitotoxicity, which .... is a common mechanism in a number of neurological disorders. By suppressing or affecting microglial activation states as well as the excitotoxic cascade and inflammatory mediators, these compounds dramatically affect the pathophysiology of central nervous system disorders and promote the release and generation of neurotrophic factors essential for central nervous system healing."

Problems being addressed

Specific issues with ASD identified by the scientific research that can be helped by herbs and supplements include:

- support of the immune system,
- reducing allergies,
- enhancing detoxification,
- improving the health of gut bacteria,
- balancing hormonal function, adjusting diet, assisting sleep and mood,
- and reducing brain inflammation (which is often behind a "noisy" brain).

Need for individual approach

Due to the wide variety of issues a child with autism or neurodevelopmental problems many have, treatment needs to be tailored to these needs rather than be a scatter-gun approach where a child may be taking medications irrelevant to the underlying problems.

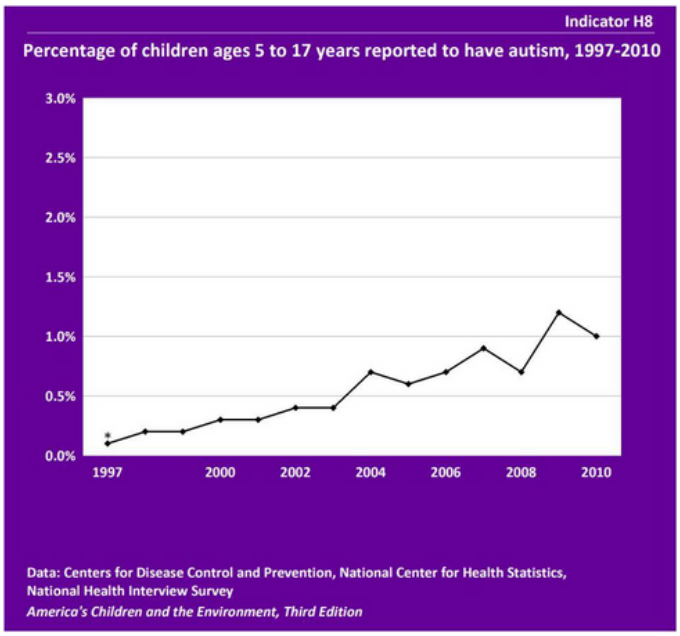
It is also important to use practitioner grade herbs and supplements to achieve the levels required for a therapeutic effect and to take account of any other prescribed medication the child may be taking e.g. for epilepsy. Treatment may also need to improve health or function in one area before others are tackled. Ongoing treatment is guided by the child's response and other clinical indicators.

One example of the beneficial use of supplements can be seen in recent clinical trials of broccoli sprouts in ASD. Broccoli sprouts are known to stimulate the clearance of toxins from the body, and a clinical trial conducted by doctors at the eminent Johns Hopkins University in the USA showed a substantial and significant improvement in young men with ASD. Parents made comments like:

"R is now happier, has more control over his body, and overall is a positive child with a great attitude. He is more social and goes to concerts, movies, restaurants, vacations and family outings (all of which were not possible before the study)."

Rates of autism and ADHD have increased significantly in the last 20 years while rates of learning disorders and intellectual disability have remained the same.

50 years ago, one in 5,000 people had autism. In 2010 it was one in 68.



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The role of inflammation

Doige discusses the role of chronic inflammation in autism. He says, "Many autistic children have immune system abnormalities and overactive immune systems. They have high rates of gastrointestinal infections and inflammation, food sensitivities (often to grains, gluten, dairy and sugar), asthma (which involves inflammation) and inflammation of the skin." In this respect, he says, autism can be thought of not just as a brain disease, but a "whole body disease that affects the brain's health". Doige quotes a 2005 study by a team from Johns Hopkins University School of Medicine which showed that autistic brains are often inflammed, especially the cortex and the cerebellum.

Supplements can be given in different forms - liquid, capsules or tablets. They are generally well tolerated and have few side effects.

Environmental toxins

Philip Landrigan and colleagues have published a series of articles on the developing brain and environmental toxins. In an article published in 2002 in the journal Environmental Health Perspectives they state that more than 80,000 new synthetic chemical have been developed over the last 50 years. Of these, nearly 18,000 chemical compounds are produced in high volumes and can be dispersed in the air, water, food and homes. Yet only 43% have been tested for potential human toxicity and even fewer (7%) for their possible effects on development. They estimate that 5-20% of children's neurobehavioural disorders are caused by toxic exposures either directly or through interactions with genetic susceptibility. Landrigan (1998) points out that children are not little adults. Due to the immaturity of their systems they are particularly susceptible to harms where an adult may not be. He says that "Their tissues and organs are rapidly growing, developing and differentiating. At various stages these growth processes create windows of great vulnerability to environmental toxins."