

## **ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD) CAN MASSAGE BE EFFECTIVE IN TREATING THIS CONDITION?**

*By Colleen Mackay DARM SMTO*

So what is ADHD? According to The British Medical Association it is a behavioural disorder in which a child has a consistently high level of activity and/or difficulty in attending to tasks. It affects up to 1 in 20 children in the UK and is more common in boys. It develops in early childhood usually between the ages of 3 and 7 and may include inability to finish tasks, short attention span, inability to concentrate in class, difficulty in following instructions, a tendency to talk excessively, frequently interrupting other people, difficulty in waiting or taking turns, inability to play quietly alone, and physical impulsiveness.

Well, after reading the BMA's definition I thought they were describing my husband! It is not just a childhood disorder, but can continue into adulthood. I also discovered during research that many famous people could be labelled with ADHD in today's world if still alive, Thomas Edison and Leonardo da Vinci to name just two.

So is ADHD a label for challenging children who don't fit our normal view of what a child should be or is it a real condition? And are children and adults living with the label of ADHD hindered further by the public's negative perception of their disorder and does this compound their condition and would it be beneficial for them to have a more positive approach? There is no physical test (such as blood test), no standardised assessment method and it has been found that other problems can have similar behaviour to ADHD, so we are left with many questions as to how this diagnosis was developed.

It is generally agreed amongst scientific communities that ADHD is a biological condition resulting from dysfunction in the brain. Some scientists believe that it could be largely genetic. Neural mechanisms that underlie ADHD are beginning to be uncovered with the use of brain imaging techniques such as CT, MRI, fMRI and PET. Until recently, imaging studies have been structural (CT and MRI) which take static pictures of the brain. The evidence from this suggests that the frontal cortex is involved in ADHD. Because the frontal cortex is involved mainly with executive functions (problem solving, attention, reasoning, planning) they have found some evidence that the right frontal lobe is smaller in children with ADHD than non-ADHD children. The data was supported by close similarities with people who have suffered frontal lobe damage or right hemisphere damage through illness or accident. With new technology they are now able to have functional imaging (SPECT & fMRI) which allows researchers to view the brain while it works. These studies have exposed a decrease in the metabolic activity in the right frontal lobe, but also in an area known as the basal ganglia. There are three areas closely related to the basal ganglia, believed to be responsible for the symptoms of ADHD – the prefrontal cortex, the caudate nucleus and the globus pallidus. Some researchers believe that problems in the circuit between these three regions are the underlying mechanisms that cause ADHD symptoms. (The prefrontal cortex is thought to be the brain's "command centre" while the other two parts translate the commands into action.)

Even with the above findings there are always variances in ADHD data even to the extent that some believe that it is the left side rather than the right that is dysfunctional, so it is difficult to know what to believe and if there really is evidence to back up the symptoms. There are even scientists who have proven that it is a chemical imbalance in the brain. There will always be some scientist somewhere that is able to use data and statistics to prove or disprove any theory.

So we are left thinking instead about the children (and adults) who have been diagnosed with ADHD and what science is then able to do for them.

Drug therapy seems to be the main thrust in treating the symptoms of ADHD. The main drugs that are used are stimulants, which in itself seems odd, however, they work on the basis that stimulants work through the release of neurotransmitters. Methylphenidate (the most commonly prescribed stimulant) significantly increases dopamine levels in the brain which are abnormally low in the brain of ADHD sufferers. Approximately 70% of people with ADHD benefit from the first stimulant prescribed. However, as with all medication, there are side effects. The most common among these stimulants is liver damage.

So what can be done to help ADHD sufferers on a more natural level? Some research has shown that ADHD sufferers are more likely to have fatty acid deficiencies. Because the brain is more than 60% structural fat we need to have a diet that includes the right type of fat and today's diet is poor in this area and worse still we eat man made trans-fatty acids and excessive amounts of saturated fats and vegetable oils high in Omega-6 fatty acids which all interfere with our body's attempt to utilize the small amount of Omega-3 fats that we do eat. A study at the Purdue University showed that children with low Omega-3 EFA's are significantly more likely to be hyperactive, have learning disorders and display behavioural problems. A study has been done to back up this information showing that reduced Omega-3 fatty acids reduced the number of synaptic vesicles in neurons whilst an increase was shown when the diet was enriched with Omega-3 which in turn produced markedly better performance on tests carried out.

Diet is another way that has been shown to improve ADHD. The Feingold Association has done research that connects diet and behaviour. Synthetic petroleum-based food additives act like drugs on certain children that give symptoms exactly like ADHD. This can be backed up by double-blind, placebo controlled food challenges published in major scientific journals. It proved that learning or behaviour in certain children is significantly impaired for several hours following the ingestion of artificial food colours. The Feingold Program chooses a list of products and foods without synthetic colours, synthetic flavours, antioxidant preservatives and food containing natural salicylates.

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Zinc is one of the dietary supplements that is thought to help in ADHD because it regulates the activity of neurotransmitters, fatty acids, and melatonin. Two separate studies found that children with ADHD had significantly lower blood zinc levels than children without ADHD.

There are many complementary therapies that have claims to treating ADHD such as Homeopathy, Herbalism, Tai Chi, Acupuncture, and the list goes on. So what about Massage Therapy? Can this be an effective form of treatment for sufferers of ADHD? There are differing views on the subject depending on where you search for information. The general consensus agrees that relaxation and massage techniques have been shown to reduce anxiety and activity levels in children and adolescents. Studies have shown surprising evidence. In one study, 28 adolescents with ADHD were randomly selected to receive either massage therapy or relaxation techniques for 10 consecutive school days. At the end of treatment students who received massage rated themselves as feeling happier and observers rated them as being less fidgety and active following the sessions. Teachers rated these students as spending more time on task and showing less hyperactive behaviour in the classroom. Various other studies have been done and all have the outcome that massage plays a positive role in reducing the symptoms of ADHD.

I came across a case where a child was diagnosed with ADHD and parents were advised to take the usual route of medication in the form of Ritalin. The parents decided to look elsewhere for alternatives and it was found that the child had the first 3 cervical vertebrae misaligned. When these were corrected his symptoms disappeared.

So it then comes down to whether massage really does work with this condition and it seems it does if the results of studies are anything to go by. The child with the misaligned vertebrae is an isolated case but perhaps only because they took an alternative route. There may be others who have had similar outcomes with massage and manipulation. If babies have a traumatic birth then they are much more likely to have ADHD in childhood so it would seem that if the head and neck area which are highly stressed at birth can be corrected through massage by realigning structures, creating a better blood flow to the brain, activating and stimulating nerve supply that has been compromised and giving the child the feel good hormones that seem to be essential in this condition, then we can make a difference. I feel that rhythmic stimulating massage would best suit this condition by stimulating nerve supply, increasing proprioception and bringing balance between right and left brain function. Working on the face using finger tapotement would stimulate the trigeminal nerve, which is the largest cranial nerve and the greatest sensory nerve of the head and face. This nerve commences growth in the 5<sup>th</sup> foetal month but is not fully formed until the third month after birth. If there was trauma to the head and face during the birthing process they could possibly be damaged. Through tapotement and deep tissue work to the face, head and neck the nerve supply can be encouraged to form a clear pathway. Children with ADHD are usually sensitive to noise and light which are both controlled by the trigeminal nerve. In all cases however, treatment would have to be tailored to the client as we are all unique, even in disease. What will be most crucial those being treated, however, will be the feel-good factor that our touch can bring.

And just as a final note. I came across a positive article written by a woman with ADHD. She was 34 years of age and had lived with the disorder since childhood. Instead of looking at ADHD as a disability as so many do, she considered herself as a normal person who just happened to have a busy brain that goes a thousand miles an hour. She would like the world to see ADHD as a positive thing and even suggested names such as "Highly Active Brain Development", "Supercharged Active Brain Power", "High Energy Brain Activity", etc instead of the negative labelling it has been given.

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