

Attention Deficit Hyperactivity Disorder and Aromatherapy by Rebecca Bruckner

I. Definition

Attention-deficit/hyperactivity disorder (ADHD) is a chronic condition that affects millions of children today. The condition includes a combination of sustained attention problems blended with hyperactive and impulsive behavior.

The terminology ADHD originated from the medical diagnosis of Attention Deficit Disorder (ADD), which was subcategorized into ADD with hyperactivity or ADD without hyperactivity. The language ADD was officially expanded to ADHD in 1994 (Khosh 2003). ADHD is the preferred term because it addresses primary conditions, the inattention and the hyperactive-impulsive behavior.

II. Etiology

While it is known that ADHD is related to "a deficiency of dopamine, a chemical in the brain necessary for several vital brain functions" (Khosh), the specific causes of ADHD are unknown. Several factors, however, may be implicated in the advancement of the disorder. Although there is insufficient data directly linking ADHD as an inherited trait, genes may play a role. High on the list of risk factors are blood relatives (a parent or a sibling) with ADHD or another mental health disorder. Additionally, contact with particular environmental toxins may also be correlated with the development of the chronic disorder; one such example is exposure to lead, found mainly in paint and pipes in older buildings. Finally, in addition to premature birth, there may be a relationship of ADHD and a fetus' exposure to pollutants before birth. Certain maternal exposures may impact the growth of the central nervous system of a fetus at its critical moments of development. These include both maternal drug use (alcohol and nicotine) and exposure to environmental poisons (PCBs) during pregnancy. Interestingly, there has been no reliable link of sugar to hyperactivity (Mayo).

III. Signs and Symptoms

Those who are diagnosed with ADHD have both primary and secondary signs and symptoms. The primary signs and symptoms of ADHD are well known and include: difficulty in paying attention; frequently daydreaming; difficulty following through on instructions and apparently not listening; frequently has problems organizing tasks or activities; frequently forgetful and loses needed items; frequently fails to finish school work, chores or tasks; easily distracted; frequently fidgets or squirms; difficulty remaining seated and seemly in constant motion; excessively talkative; frequently interrupts or intrudes on others' conversations; and frequently has trouble waiting his or her turn. Secondary signs and symptoms of ADHD include struggling with low self-esteem, troubled relationships, mood swings and temper tantrums, inability to cope with stress, and poor performance in school. Boys seem to be two to three times more susceptible to the condition than girls. It was of interest that the presentation of this disorder in boys will often display as hyperactivity, while in girl the more frequent sign is daydreaming.

Most research agrees that ADHD presents as early as two to three years of age. Khosh stated, "In order to diagnose a child with ADHD the behaviors must appear before the age of seven and be present six months." Yet, the National Institute for Mental Health reports "Some children are not diagnosed with ADHD until they reach adolescence. This is more common among children with predominantly inattentive symptoms because they are not necessarily disruptive at home or in school. In these children, the disorder becomes more apparent as academic demands increase and responsibilities mount" (14). Adults may also be diagnosed with ADHD, but this is less frequent. When this happens, these adults have a history of failures at school and work, and difficult or broken relationships.

A specialist must diagnose ADHD in order to distinguish ADHD from normal child behavior, a range of ailments and circumstances that may present with similar signs and symptoms, and other coexisting conditions.

Most normal, healthy children are inattentive, hyperactive, or impulsive at one time or another. Children should never be classified as having ADHD just because they are different than their peers. Illnesses and events that may have similar signs and symptoms include undetected seizures, middle ear infections, undetected hearing or vision problems, medical conditions affecting thinking and behavior, or a significant and sudden life change. Coexisting conditions include learning disabilities, anxiety disorders, sensory processing disorder/issue, depression, bipolar disorder, oppositional defiant disorder, conduct disorder, and Tourette Syndrome. Since no single test can diagnose a child as having ADHD, it is essential that the referring doctor work with a specialist to determine the child's condition.

IV. Traditional Treatment

Traditional ADHD treatments have been around for years. These include both stimulant medications, such as Ritalin, Adderall, and Dexedrine and atomoxetine and antidepressants, such as Strattera. All have serious side and long-term effects, ranging from heart attacks to suicide risks. Behavioral therapy and counseling are also traditional treatments of ADHD. Because of the range of the side effects, many are turning to alternative and complementary ways to treat this condition.

V. Non-traditional and Integrative Treatment

While considering non-traditional and integrative treatments of ADD and ADHD, this discussion will mention alternative treatments and bodywork, but the majority of the consideration will focus on the aromatherapy and the use of essential oils.

A. Alternative treatments

Several non-traditional or alternative treatments are available. Diet plays a big part in treatment. Other alternative therapies mentioned by Mayo Clinic included yoga or meditation, vitamin or mineral supplements, herbal supplements, proprietary formulations (of vitamins and minerals), essential fatty acids, neuro-feedback training, sensory integration therapy, and interactive metronome training.

B. Bodywork

An additional alternative treatment that has been proven to have positive outcomes is body work. "Bodywork has been seen to improve anger control, sleep quality, classroom behavior, mood, and interpersonal relationships in people diagnosed with ADHD" (Werner 178). Tiffany Field, executive director of the Miami-based Touch Research Institutes (TRI), and her team of researchers conducted a case study.

For the study, which was published in the Spring 1998 issue of *Adolescence* magazine, the researchers selected 28 adolescents, 14 of whom received a 15-minute massage session for 10 consecutive school days, and 14 of whom received 15 minutes of relaxation therapy for 10 consecutive school days.

Assessment of the participants revealed that those who received massage were happier, and teachers noticed the positive change in these students (Ewart).

Further research is being conducted in regard to ADHD treatment and massage, but it is a developing option. While it may be difficult to get an ADHD child, adolescent, or adult to abide bodywork for an extended period of time, massage has been proven to be a helpful alternative to control the outward signs and symptoms of this disorder.

C. Essential Oils and Aromatherapy

Aromatherapy is the use of plant essential oils, containing naturally occurring chemicals that can be used in a way that can positively influence physical, mental, and emotional underlying conditions. The effect of essential oils is due to the fact that some essential oils contain chemical components that are among the few molecules that can pass through the blood/brain barrier.

“When an essential oil is inhaled, the odor molecules travel up your nose where they are trapped by olfactory membranes. They are then carried to the limbic system where they pass between the major glands in the brain. Smell is the only sense that goes directly to the limbic system, bypassing the cerebral cortex, (outer intellectual part of the brain)... Odor messages are one of the fastest ways to achieve beneficial psychological or physiological effects.” (Dechen 27).

In a well-known two-year study, Dr. Terry Friedman, MD, concluded that the inhalation of essential oils proved to settle ADD/ADHD children's brain waves into normal pattern, improve academic performance, and support amiable behavioral patterns. The test was conducted between 1999-2001, using 40 children, 20 of whom had an official ADD/ADHD diagnosis, and 20 not diagnosed who were used as a control group. Each group was pretested using a baseline evaluation with a real time EEG and The T.O.V.A. Scale (The Test of Variables in Attention Scale). The essential oils chosen for the case study were Lavender (*Lavandula officinalis*), Vetiver (*Vetiveria zizanoides*), Cedarwood (*Cedrus atlantica*) and a blend of incense, Sandalwood (*Santalum album*), Cedarwood (*Cedrus atlantica*), Blue Cypress (*Callistris intratropica*), Lavender (*Lavandula officinalis*), and Helichrysum (*Helichrysum italicum*). The final results were: Lavender (*Lavandula officinalis*) increased performance by 53%, Cedarwood (*Cedrus atlantica*) increased performance by 83%, and Vetiver (*Vetiveria zizanoides*) increased performance by 100% (ADD/ADHD Case Study). While these results suggest the effectiveness of these oils in the treatment of ADD/ADHD, aroma therapy choices and combinations of essential oils used to treat ADD/ADHD tend to vary for each individual.

The choice of the correct essential oil, or a blend of essential oils, should be determined with the consultation between an aroma therapist and the client. One must be aware of the oils that have been shown to be useful. The following list of ten essential oils has been compiled from a variety of sources and are identified as being helpful to the treatment of ADD/ADHD . (Oils are randomly listed. Images from Brinkman.)



- **Lavender** (*Lavandula officinalis*): One of the most widely used of all essential oils, it is often effective in producing a sedative effect, causing a person to calm down and relax. It is known to balance personality. The value of this treatment for a hyperactive ADHD child is obvious. If aroma therapist / client finds lavender alone does not work, often times wild orange (*Citrus sinensis*) will be effective. Precaution: Not for low blood pressure



- **Cedarwood** (*Cedrus atlantica*): This oil is often recommended because it is known to stimulate the limbic region of the brain and the pineal gland, which releases melatonin, adding the sleep cycles. Cedarwood has calming properties, assists concentration, and has been shown to be effective with children with ADD/ADHD. One caution is that it may cause bad dreams in children who have used the oil.



- **Frankincense** (*Boswellia carterii* or *Boswellia Sacra*): Known for stimulating the limbic system of the brain, Frankincense assists in lowering anxiety and reducing depression. Frankincense oil may reduce inflammation and produce a calming influence on the hyperactive ADHD patient. Studies have shown that it also allows the brain to focus more easily.



- **Vetiver** (*Vetiveria zizanoides*): Vetiver has been used in scientific studies for the treatment of ADHD because it has a calming influence on nerves, relieving feelings of anxiety and proving greater focus in the brain during the day. Vetiver has grounding and soothing effects and has been documented to relieve shock and trauma.



- **German Chamomile** (*Matricaria chamomilla* or *Matricaria recutita*): Chamomile has been shown in tests to be slightly effective in treating children with ADHD (Niederhofe). It also aids in sleep and has calming and relaxing properties that help to reduce anxiety, dispel anger, and release old emotions.



- **Orange** (*Citrus sinensis*): Wild orange counters depression, calms anxiety and frustrations, gives emotional reassurances and recharges the emotional system, and calms

hyperactivity (Shomkins 3-84). Precaution: Photosensitive; not for sensitive skin; not recommended for baths.



- **Bergamot** (*Citrus bergamia*): Bergamot provides feelings of confidence and gives an uplifting, energizing effect on the emotional system. When the nerves are calmed and brought into balance the result is the ability to focus with more clarity. It is also believed that bergamot can help diffuse feelings of anxiety, frustration, and agitation. Precaution: Photosensitive; not for sensitive skin



- **Ylang Ylang** (*Cananga odorata*): A study taken on the use of ylang ylang showed that it produced sedative effects in the brain. It also decreases pulse rates and blood pressure, relieving symptoms of ADD and ADHD. When inhaled it can produce alertness and attentiveness (Brinkman). Precaution: Not to be used with low blood pressure



- **Marjoram** (*Origanum marjorana*): Marjoram is known to ease extreme stress response and calm hypersensitivity. Some aroma therapists have advocated the inclusion of marjoram in blends countering ADD/ADHD. Precaution: Not to be use for more than 10 consecutive days; not to be used for children under 5 years of age; not recommended for baths



- **Clary Sage** (*Salvia sclarea*): Clary sage is very helpful in calming a stressed out emotional system. It counters anxieties and fears, allays anger and frustration, calms stress concerns, counters anger and frustration, and quiets mental chatter (Shomkins 3-27). This oil is a common selection in blends formulated for hyperactive children. Precaution: Avoid with history of estrogen-dependent cancer; do not use if drinking; not for low blood pressure.

The solo oils identified above are known to provide support for an individual suffering from ADD/ADHD; yet each person is unique. Furthermore, as is frequently demonstrated in aromatherapy, blends are often more effective due to the synergistic effects of the combined single oils. Often the effects resulting from a blend is much more powerful than the outcome of individual oil application. For best results, even these synergistic blends should be customized for a specific client. This is why it is important to work with an aroma therapist in finding what oil or blend will allow for repeatable and sustainable results. One recommendation, following the Dr. Friedman's study, was to test each potentially essential oil on the ADD/ADHD person for the duration of a month and track progress and behavior as reported by parent and school personnel. Some have found positive results using this method, eliminating and ranking individual oils, which prove helpful to his or her specific situation. When using oils on children, aroma therapist and parents must take certain safety measures. Specific precautions have been mentioned for the oils listed in this paper, but one must recognize that young children are much more sensitive to essential oils than adults. Further, some oils are not recommended for children younger than five. Both solo essential oils and blends should be diluted with a carrier lotion or oil at a 1% dilution for children, elders, pregnant women, and sensitive people. This equals six drops of essential oil or blend per ounce (Dechen 103). Any essential oils should be used for therapeutic support under the direct supervision of a qualified adult. Even when used under controlled administration, it is always wise to skin-patch-test the oil on the inside of the arm, near the elbow before copiously applying to other areas of the body.

Depending on the person and the circumstances he or she is in, the application of essential oils may vary in frequency of use as well as in method of application. The clinical studies conducted on ADD/ADHD applied or defused oils three times a day for the duration of the study. The typical frequency for using an essential oil blend is starting at two to four times a day for a period of time, and then building to three to six times a day. Again, application frequency is a very individualized recommendation. The aroma therapist, with feedback from parents and school personnel, should modify frequency as needed for best practices. Once having determined the most beneficial frequency, one must consider where and how to apply the oil or blend for maximum benefit.

Both the individual oil and/or the oil blend should be applied to the skin for the best results. However, there are several alternative applications that aroma therapists and parents of children with ADD/ADHD have found beneficial. The following lists the range of potential applications.

- Combine oils or blend with carrier oil at a 1% dilution. Apply oil or blend to the spine, back of the neck, head (some refer to this area as the brain stem), and up behind the ears, and forehead. Massage oil as well as the healing touch is beneficial.
- Combine oils or blend with carrier oil at a 1% dilution. Apply oil or blend to the bottoms of the feet, focusing on the head reflex points on the underside of the big toe.
- Combine oils or blend with carrier oil at a 1% dilution. Apply oil or blend to the inside of the wrists, and the back of the knees.
- Combine oils or blend with carrier oil at a 1% dilution. Apply oil or blend to the palms of hand, rub hands together, then cover nose and mouth and inhale deeply, hold, and exhale. Repeat three times.
- Combine oils or blend with carrier oil or lotion at a 1% dilution. Massage ADD/ADHD person with oil or lotion.
- Use a nebulizing diffuser to diffuse oils into the air. Add 15-25 drops of undiluted essential oils into the glass nebulizer, cork the top and plug in and run for 20-30 minutes. (Dechen 103).
- Combine with bath salts and dissolve in bath. Stir in 3-6 drops of essential oils into 2-3 tbs. of vegetable glycerin or carrier oil, and then add to 1/4 c. of fine grain Dead Sea salts and 1/4 c. sea salt (Dechen 103).
- Combine up to 10 drops with organic honey or vegetable glycerin and dissolve in bath.
- Use a nasal inhalant. Saturate the felt insert of the nasal inhaler with 10-15 drops of essential oils, load into the inhaler and cap the bottom (Dechen 103).
- Use clay necklace with the preferred oil

While finding an oil or bend that provides repeatable, sustainable results for a sufferer of ADD/ADHD may take some time, one's efforts will be beneficial for the individual involved. While the improvements may be small, each measured success is to be celebrated. ADD/ADHD is not a state that will magically disappear, but one does have options when seeking help and support for a loved one--friend or family-- dealing on a day-to-day basis with this condition. Ultimately, each parent, family, or individual is responsible to choose what course of action is most beneficial to the person involved. Whether one chooses a traditional medical treatment, alternative and/or holistic options, or an integrative approach to ADD/ADHD, the goal is wellness and health. Essential oils have a proven track record and are certainly worth one's consideration. The results may be surprisingly wonderful as in this testimonial given on March 19, 2015, by one member of the *Autism, ADHD, and Essential Oils* Parent Facebook support group.

I have a fantastic testimony to share! My best friend's son (6) suffers from ADHD. He is on medication. He is an adorable, loving, great kid...with a ton of energy & has a very difficult time focusing. He has always had a difficult time falling asleep & sleeping well. I gave his Momma a sample of Lavender & Vetiver & FCO [Fractionated Coconut Oil] to apply to the bottom of his big toes at bedtime, in hopes of him getting some wonderful sleep to allow his body & brain some MUCH NEEDED REST. It worked immediately!! It has been just over 2 weeks of use & he is having amazing results. In the beginning, she would apply it a few times before he zonked out, but now, one "swipe" & he's good. (He likes to puff his covers after he gets tucked in so he can waft the smell...LOL!) He has had awesome behavioral improvements at school...**only one color change in 2 weeks! (The equivalent of having your name on the board).** [Emphasis added.]

His teacher is so proud of him (we all are)! He told me he loves his "new night-night medicine"! Isn't this just WONDERFUL! (Flinders)

Work Cited

- "ADD/ADHD CASE STUDY- DR. TERRY FRIEDMAN, M.D. - Health, Medicine and Natural Healing 01." *RemedySpot.com*. Web. 18 Mar. 2015.
- "ADHD – Attention Deficit/Hyperactivity Disorder: Science & Research." *Everything Essential*. Web. 19 Mar. 2015.
- AltMD.com. "Aromatherapy/Essential Oil for Attention Deficit Hyperactivity Disorder (ADHD)." *AltMD.com*. AltMD Smart Alternatives. Web. 19 Mar. 2015.
- Attention Deficit / Hyperactive Disorder (ADHD)*. Washington D.C.: National Institute of Mental Health, 2012. Print.
- "Attention-deficit/hyperactivity disorder (ADHD) in children." *Attention-deficit/hyperactivity disorder (ADHD) Definition*. Mayo Clinic, 5 Mar. 2013. Web. 23 May 2014. <<http://www.mayoclinic.org/diseases-conditions/adhd/basics/definition/con-20023647>>.
- Brinkman, B. "The Best Essential Oils for ADHD." *Ranker*. Web. 19 Mar. 2015.
- Dechen, Shanti. "Limbic System." *Clinical Aromatherapy Level 1*. 2014 Ed. ed. Crestone: Aroma Apothecary Healing Arts Academy, 2014. 136. Print.
- "Essential Oils Aromatherapy for ADD Attention Deficit Disorder & ADHD Attention Deficit Hyperactivity Disorder." *BioSource Naturals*. BioSource Naturals. Web. 19 Mar. 2015.
- Ewart, III, Ph.D., Heyward . "Attention-Deficit/Hyperactivity Disorder: Why massage Works." — *American Massage Therapy Association*. American Massage Therapy Association, n.d. Web. 26 May 2014. <<http://www.amtamassage.org/infocenter/adhd.html>>.
- Flinders, Amber. "ADHD Testimonial." *Facebook*. Facebook, 19 Mar. 2015. Web. 22 Mar. 2015.
- Kosh, Farhang, and Deena Beneda. "Attention Deficit/Hyperactivity Disorder." *The Townsend Letter Group* Jan (2003): p68(4). Print.
- Maloof, Rich. "Frankincense and Mirth: Is that psychoactive smoke wafting through the pews?" *Brain & Body*. MSN Health & Fitness. 2008.
- Niederhofe, H. "RESEARCH." *Observational Study: Matricaria Chamomilla May Improve Some Symptoms of Attention-deficit Hyperactivity Disorder*. PhytoMedicine, 1 Jan. 2009. Web. 19 Mar. 2015.
- Stromkins, Jennine. *The Autonomic Nervous System and Aromatherapy: A Therapist's Guide to Working with the Two Systems*. New Westminster, B.C.: International Essential Oil, 1998. Print.
- Werner, Ruth. *A massage therapist's guide to pathology*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health, 2013. Print.