

# 10 Essential Oils for Stress

Considering clinical studies, chemical components,  
plant part, and energetics

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Essential oils are best described by Dr. Florian Birkmayer as “molecules of connectedness” (Birkmayer, F. 2016). The actions of essential oils are varied and complex but it is the aim of this paper to explore their ability to connect us with a calmer, more grounded self when faced with stress. The very definition of “stress” itself is just as complex as the feat of self care. Scientists like Hans Selye spent a lifetime trying to find an adequate definition for stress and still resolve to stating that, “everyone knows what stress is, but nobody really knows” (AIS, 2019). It is important to note that there is a fine line between stress that increases productivity and stress that takes a toll on the body and mind. A balancing act is required in knowing when to push our own productivity and when to pull back to take care of ourselves.

Stress manifests in various ways for individuals. In some, stress exacerbates depression and anxiety, while others may experience high blood pressure, rapid heart rate, and nervous agitation. It should be emphasized that,

“that point or peak differs for each of us, so you need to be sensitive to the early warning symptoms and signs that suggest a

stress overload is starting to push you over the hump. Such signals also differ for each of us and can be so subtle that they are often ignored until it is too late." (AIS, 2019).

This paper aims to illuminate 10 essential oils that are helpful in managing stress, with consideration of the clinical studies conducted on their therapeutic properties, as well as their chemical components, plant part, and energetics. We will take a look at Sweet Orange (*Citrus sinensis*), Bergamot (*Citrus bergamia*), Melissa (*Melissa officinalis*), Lavender (*Lavandula angustifolia*), Ylang Ylang (*Cananga odorata* var. *Genuina*), Rose (*Rosa x damascena*), Frankincense (*Boswellia carterii*), Sandalwood (*Santalum album*), Patchouli (*Pogostemon cablin*), and Cedarwood (*Juniperus virginiana*), and differentiate how they can help in various aspects of stress.

Let's first take a look at depression, which is a common but serious mood disorder (NIH, 2019) exacerbated by stress. While there are many signs and symptoms associated with depression, the aspects discussed here include a disturbance in mood and decreased mental clarity. The Essential Oils that will be discussed in conjunction with depression are Sweet Orange, Bergamot, and Patchouli.

Because it's a top note, which is an Essential Oil (EO) with a high evaporation rate, and its ability to help lift the mood, Sweet Orange is first on the list of essential oils associated with depression. Many studies on the therapeutic properties of Sweet

Orange EO confirm its helpfulness in aiding depressive symptoms. In a study using healthy humans, Sweet Orange EO:

“caused significant increases in heart rate as well as in subjective alertness, which are likely to represent a stimulating effect of the oil. These findings furnish scientific proof for the use of sweet orange oil in aromatherapy for the relief of mild forms of depression and stress in humans.” (Hongratanaworakit, T. and Buchbauer, G., 2005, p. 75).

When we consider how Sweet Orange can have a positive effect on someone experiencing depression, it is important to consider which part of the plant used in the distillation of the essential oil. When a fruit is used in Aromatherapy, it encourages fun and ease:

“Fruits have an uplifting and cleansing effect. They contain a lot of water, and are good for the lymphatic system and for emotional cleansing. They are refreshing, and the oils can be used to bring fresh, clear energy to a space. Fruits also protect and nurture the seeds in the plant. The oils are often used in blends to lift depression and offer joy to the heart and mind.” (Butje, Andrea, 2018, Aromatherapy Certification Program, Aromahead Institute, Black and Butje, Inc.)

Bergamot EO is also useful in lifting someone out of their

depression. Gabriel Mojay, principal of the Institute of Traditional Herbal Medicine and Aromatherapy in the UK writes:

“Like all citrus oils, Bergamot is essentially cooling, refreshing, and antidepressive. Its gently relaxing, yet distinctly uplifting, effect is the result not only of its beautifully fresh, fruity-floral aroma but the fact that it smooths the flow of Qi-energy. This energetic property of the oil relates directly to its ability to harmonize Liver-Qi, the function of which is to maintain the free and even flow of vital energy throughout the body/mind.” (Mojay, Gabriel, 1997, pgs. 52-53).

Lack of focus is a symptom often associated with depression and can be helped by Patchouli, the third essential oil affiliated with alleviating the condition. Concentration and attentiveness can be increased with the inhalation of Patchouli EO. One study relates Patchouli Essential Oil to contingent negative variation (CNV) which is “a slow negative brain potential occurring between a warning stimulus and an imperative stimulus”. Work by C. H. Manley at Takasago International Corporation revealed that Patchouli Essential Oil increases the CNV magnitude, therefore having a stimulating effect. (Hongratanaworakit, T, 2004, Pgs. 118-125)

Considering the part of the plant used in distilling an

essential oil obtained from the leaves of the plant, as in the Patchouli EO, is useful. When leaves are used in Aromatherapy they allow greater expansiveness, says Andrea Butje, director of the Aromahead Institute:

"The leaves allow the plant to breathe. They also protect the plant from water loss and support photosynthesis. We can use oils made from leaves to support respiration and deeper breathing. These oils can also protect us from infection. They can help us breath when we feel stress and anxiety, while supporting expansion and creativity. Leaf oils can also support us when if we get into over-thinking and need a calm, clear mind." (Butje, Andrea, 2018)

Closely linked to depression is anxiety. The National Institute of Mental Health indicates that "occasional anxiety is an expected part of life," (NIH 2019) but "anxiety disorders involve more than temporary worry or fear. For a person with an anxiety disorder, the anxiety does not go away and can get worse over time". The essential oils considered to be most effective against combatting anxiety are Sweet Orange, Melissa, Bergamot, and Lavender.

While Sweet Orange can be helpful combatting symptoms of depression as previously discussed, it can also support in times of anxiety. A noteworthy study on rats by researchers Maiden & Bettle, Cheel, and Myrtaceae suggested that Orange EO has an acute anxiolytic

activity, "giving some support to its use as a tranquilizer by aromatherapists". (Faturi C, Leite J, Alves P, Canton A, Teixeira-Silva F, 2010). The energy, or action, of Sweet Orange EO is neutral in temperature & in moisture:

"Whenever there is an excessive build-up of stress and frustration, the Qi becomes blocked and stagnates, causing a disharmony within the Liver and constriction of the Ethereal Soul (Hun). Sweet orange oil helps to move stagnant Qi and ease tension and frustration" (Mojay, Gabriel, 1997, pgs. 102-103).

When considering essential oils that help with anxiety we can look next to Melissa, or Lemon Balm. Psychiatrist Dr. Florian Birkmayer, MD presented his findings that Melissa Essential Oil is "used as an anxiolytic (by inhibiting GABA transaminase) and a mild sedative. Lemon Balm and preparations thereof also have been shown to improve mood and mental performance." (Birkmayer, Florian, 2014). Melissa may have a more gentle effect on someone with depression, "particularly in those who are emotionally sensitive and do not respond well to pressure. Melissa is the most effective oil for anxious depression and a feeling of foreboding." (Mojay, Gabriel, 1997, pgs. 96-97).

Melissa is high in both Geranial and Neral, of which both chemical components belong to the Aldehyde family. The Essential

Oils from a chemical family high in Aldehydes have a calming effect on the nervous system. (Bonneval, P., and Skipper, C., 2016)

In addition to its antidepressive properties, Bergamot Essential Oil is also anxiolytic. In a rat study, Bergamot Essential Oil (BEO) was compared to the drug Diazepam to evaluate anxiety-related behavior and corticosterone levels. The conclusion was that inhalation of BEO and injection of Diazepam both "exhibited anxiolytic-like behaviors and attenuated HPA axis activity by reducing the corticosterone response to stress". (Saiyudthong, Somrudee and Marsden, Charles, 2010). The chemistry of the Bergamot EO can also be credited for its ability to help with anxiety, as Essential Oils that are high in Esters have a calming effect. (Bonneval, P., and Skipper, C., 2016, pg. 183).

The Essential Oil that has undergone the most clinical studies is the beloved Lavender. Its value as an effective anxiolytic has been proven in case after case. A study using the Hamilton rating scale for anxiety (HAMA) on 14 female hospital patients being treated for chronic heodialysis showed that Lavender Essential Oil significantly decrease anxiety. (Itai, T., Amayasu, H., Kuribayashi, M., Kawamura, N., Okada, M., Momose, A., Tateyama, T., Narumi, K., Uematsu, W. and Kaneko, S., 2000).

In another study, 150 adults awaiting dental surgery showed that the group who received lavender inhalation "showed a remarkable lower anxiety on operating room transfer". (Dobetsberger, Clara and

Buchbauer, Gerhard, 2010). A study using Lavender Essential Oil in an Ayurvedic Shirodara treatment showed that the Lavender Essential Oil (both inhaled and absorbed through the skin) enhanced anxiolytic activity, and further lowered heart rate and altered state of consciousness. (Dobetsberger, Clara and Buchbauer, Gerhard, 2010). Iga and Cga levels proved to be lowered by Lavender Essential Oil in studies performed on students before and during exams. (Dobetsberger, Clara and Buchbauer, Gerhard, 2010). One reason Lavender EO is so powerful for easing symptoms of anxiety is because it is rich in Esters. The chemical component present in Lavender is linalyl acetate. Essential Oils that are high in linalyl acetate have a calming effect on the nervous system. (Bonneval, P., and Skipper, C., 2016, pg. 183).

An additional aspect related to stress is a rapid heart rate and/or high blood pressure. As we move away from essential oils featuring top notes we start to consider middle, or heart, notes. Flowers which support the heart are Melissa, Ylang Ylang, and Rose but there is also evidence that a synergy of Ylang Ylang, Lavender and Bergamot can be powerful blood pressure and heart rate reducers.

Regarding Melissa, Dr. Florian Birkmayer, MD states that, in addition to relieving "overstimulation, stress, anxiety, insomnia, depression and lost inner direction, (Melissa) lowers high blood pressure, calms over-rapid breathing and heartbeat." (Birkmayer, Florian, 2014)

Ylang Ylang EO, in a 24 person study administered via inhalation, concluded that it had a "harmonizing" quality rather than a sedating one. "Ylang Ylang oil caused significant decreases in blood pressure and pulse rate as well as significant increases of subjective attentiveness and alertness". (Hongratanaworakit, T. and Buchbauer, G., 2004).

One of the most revered and expensive aromatics is Rose. In a study on humans, Rose Essential Oil was evaluated both when applied to the skin and when inhaled. Findings showed that in both cases, Rose Oil "caused significant decreases of breathing rate, blood oxygen saturation and systolic blood pressure, which indicate a decrease of autonomic arousal." (Hongratanaworakit, T., 2009).

The synergy of these three Essential Oils has proved effective in alleviating many conditions. In a 52 person study using a blend of Lavender, Ylang Ylang, and Bergamot once per day for four weeks, researchers concluded that the essential oils significantly lowered blood pressure, reduced pulse rate, reduced subjective stress, reduced anxiety, and lower serum cortisol levels. (Hwang JH, 2006).

Settling nervous agitation and restlessness, which is the fourth aspect of stress addressed here, is an important aspect of stress management. According to the Calm Clinic "there are so many things going on every time you're dealing with anxiety that all of them come together and create that restless feeling." (Calm Clinic, February 9, 2019) Essential Oils of Rose, Patchouli, Frankincense, Sandalwood,

and Cedarwood can help to calm the Central Nervous System and are mostly made up of resins and woods, which are considered base notes.

Rose EO, previously mentioned as having the ability to decrease heart rate, blood pressure, and anxiety, also:

"has been found to act on central nervous system including the brain. Several studies confirm that Rosa damascena inhibits the reactivity of the hypothalamus and pituitary systems in rat and can suppress the reactivity of the central nervous system".

(Rakhshandah H, Hosseini M, Dolati K, 2004).

A study on the effects of essential oils on sympathetic activity showed that Rose and Patchouli Essential Oils both "caused a 40% decrease in relative sympathetic activity". Findings showed "that fragrance inhalation may be utilized as a mild regulator or dysfunctions of the sympathetic nervous system". (Haze, S., Sakai, K. and Gozu, Y., 2002).

Another study on Patchouli showed that the inhalation of Patchouli Essential Oil "significantly reduced the spontaneous motor activity" in mice. The constituent,  $\beta$ -patchoulene, found in vintage Patchouli when administered singly showed a greater reduction in locomotor activity. (Ito K, Ito M. , 2011).

Regarding Frankincense, Mojay says:

"Frankincense's oil's most important sphere of action must be the nervous system. Here, its ability to relax and yet revitalize make it excellent for treating both nervous tension and nervous exhaustion. It smooths the flow of stagnant Qi-energy whenever an accumulation of stress has led to irritability, restlessness, and insomnia. As a mild tonic, it can also help to uplift, and so is an important antidepressive essential oil." (Mojay, Gabriel, 1997, Pgs. 74-75).

When the resin is the part of the plant distilled to obtain an essential oil, it is often found to be helpful in meditation, (which can be calming to the nervous system). Resin, when used in Aromatherapy, provides emotional support and healing:

"When you cut into a resin producing tree, the resin seeps out to help heal the wound. Historically, resins have been used for meditation, incense, rituals, protection and honor. The oils made from resins can be used for all these purposes. When you want to show respect to some aspect of your life, you can blend oils made from resins. These oils are also great for healing wounds of an emotional nature, and to support inner reflection." (Butje, Andrea, 2018).

Obtained from the wood/trunk of the plant are the Essential Oils

of Sandalwood and Cedarwood, which can be helpful with nervous agitation. A study found on Sandalwood Essential Oil relates it to contingent negative variation (CNV) which revealed a decrease in the CNV magnitude, therefore having a relaxing effect.

(Hongratanaworakit, T , 2004). In a rat study, researchers determined that Cedrol, the active component present in Cedarwood, decreases spontaneous motor activity and prolonged sleep time.

"Cedrol inhalation had marked sedative effects regardless of the functional state of the autonomic nerves." (Kagawa D, Jokura H, Ochiai R, Tokimitsu I, Tsubone H, 2003). Regarding the calming effects of Cedarwood,

"(Cedarwood) is fortifying and strengthening- a powerful tonic of the body's Qi-energy. It may be used for nervous debility.

Cedarwood oil's ability to strengthen the energetic function of the Kidneys relates psychologically to its fortifying action on the Will (Zhi). (It can) therefore give us immovable strength in times of crisis. Steadying the conscious mind, it helps us to resist the sudden events and powerful emotions that threaten to undermine our confidence and morale." (Mojay, Gabriel, 1997).

Stress on a human life is powerful and complex, as are the essential oils in the plant world that can help that stress. Given the considerations of the research conducted on Essential Oils, the

part of the plant used in distillation, the energetics and chemical components of each individual EO, it can be concluded that certain oils can be effective in aiding and abating certain struggles we face. To help relieve depression symptoms, such a sad mood or a cloudy mind, we can look to Sweet Orange, Bergamot, and Patchouli. For relief with anxiety, Sweet Orange, Melissa, Bergamot, and Lavender may be best. To calm a rapid heart rate or high blood pressure, Melissa, Lavender, Ylang Ylang, and Rose would be the oils in which to try, or a synergy of Ylang Ylang, Bergamot, and Lavender. For nervous agitation studies point to Rose, Frankincense, Patchouli, Sandalwood, and Cedarwood.

Being alive in a human body is not always easy but we can look to our plant allies as one of the ways to help keep the balance and stay connected to our more authentic, relaxed self.

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