

**Short Communication**

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Essential Oils for weight Loss

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Americans struggle with being overweight and with obesity. According to the Centers for Disease Control [1] "37.9% of Americans over the age of 20 struggle with obesity and 70.7% of Americans struggle with being overweight and obesity." These numbers are frightening as being overweight and obese causes many comorbidities, such as, high blood pressure, diabetes and heart disease.

This epidemic in obesity has sparked a wave of weight loss product, diet books and gimmicks to aid people in their battle for lose weight. Many products work but nothing works better than "good old-fashioned food choices and body movement for effective weight loss" [2]. With that being said, essential oils along with better food choices and exercise, can support one goal to achieving weight loss. There are several oils that will aide in weight loss but we will focus on three of the most popular, grapefruit *Citrus x paradisi*, cinnamon *Cinnamomum zeylanicum syn C verum*, and lastly ginger *zingiber officiale*.

Citrus oils can be one of the first essential oils that one can turn to for support. Citrus oils contain limonene which "induces lipolysis, the process hereby body fat and protein is broken down and dissolved" [2]. Grapefruit oil, *Citrus x paradise*, is one of the citrus essential oils that can be used along with your regular diet and exercise program. The oil is cold pressed from the peel of the fruit and has a fresh, sweet citrus aroma. The main chemical components are Geraniol, Linalool, Citral, Limonene, Pinene. Grapefruit is known to help curb cravings, boost metabolism increase energy and help reduce the amount of abdominal fat one may have. Though there may be some people who are unable to ingest grapefruit juice due to medication reaction with the chemical dihydroxy bergamottin that is found in the juice, grapefruit essential oil does not contain this chemical and thus is safe for aromatherapy use [3]. One must

always consult with the physician before using any essential oil if there is a potential for medication reaction. Grapefruit oil can oxidize quickly so it is recommended that the oil be bought in small quantities and kept in a cool dark place.

Research has discovered that grapefruit oil contains nootkatone which is a natural compound and it is what gives grapefruit its unique flavor and smell. Nootkatone is a naturally occurring activated protein kinase AMPK activator. "AMPK is a serine/threonine kinase that is implicated in the control of energy metabolism and is considered to be a molecular target for the suppression of obesity and the treatment of metabolic syndrome". When grapefruit oil is used, there is a chemical reaction involving nootkatone and AMPK. This chemical reaction stimulates AMPK in the body which helps to increase stamina and decreasing body fat and ultimately aiding in weight loss.

There are many ways grapefruit oil can be used. One of the simplest and safest methods is inhalation. "The scent of grapefruit oil increases the activity of sympathetic nerves that innervate white and brown adipose tissue" [4]. Many individuals can be emotional eaters and grapefruit oil is very uplifting oil. It can lift one's mood acting as a mild antidepressant which can help with emotional eating. The Inhalation of Grapefruit oil can aide in relieving sugar craving and this can be accomplished by either a home diffuser or nasal inhaler. For the home diffuser, you can place 3-5 drops in water and diffuse before and during meals. When unable to use a home diffuser, there are two different methods you can use. One, you can place 21 drops of oil in a personal inhaler stick and inhale before and after each meal and second, place 1-2 drops on a tissue and inhale. Grapefruit oil can be blended with other essential oils to increase the effects of weight loss.

Another application for grapefruit oil is massage. Precautions need to be taken when using grapefruit oil in a lotion or massage. The oil should never be used neat it should always be diluted in a carrier oil due to the potential of skin irritation. Phototoxicity is another precaution one should take when applying grapefruit oil to the skin. Though it presents a low risk caution and education should be given with those with sensitive skin. A patch test should always be performed before using any oil or lotion on the skin to ensure there will be no skin reaction.

Grapefruit oil has an effect on the lymphatic system working like a diuretic which helps to rid the body of toxins and excess water. This aids in the cleansing of the kidney, liver, gallbladder and balances and tones the digestive system. Massage using grapefruit oil can help minimize abdominal fat and waist circumference. A research study with post-menopausal women showed significant changes in the use of the massage technique with grapefruit oil. To create the massage blend, make a 3% blend which is 60 drops of grapefruit oil in 100ml's of carrier oil or lotion of choice. Apply twice a day to abdomen and hip/waist area.

Since, grapefruit oil is very cleansing to the gastric system, many people also ingest grapefruit oil. Grapefruit oil should not be ingested straight from the bottle as this could cause irritation to the gastrointestinal tract. Essential oils do not disburse well in water as water and oil do not mix. When oils are added to water without a carrier, the oil sits on top of the water and the essential oil is ingested undiluted. This can cause gastric upset If wanting to drink the grapefruit oil then place one –two drops of grapefruit oil to one teaspoon honey and mix in warm water. Take caution when adding the oil to water, a glass container should be used instead of plastic as the oil can break down the plastic which will leak into your drink. Another safer option is the oil can be placed in a gelatin capsule. A 20% solution of grapefruit oil and vegetable oil is made and placed in the capsule and swallowed. Enteric coated gelatin capsules can be used in the same manor but the oils are not released until they are in the small intestine.

Another oil used to health in one's weight loss and blends well with grapefruit oil is cinnamon oil, *Cinnamomum zeylanicum syn C. verum*. Cinnamon has a warm spicy musky smell and is considered a middle note. Cinnamon is either water or steam distilled from the crushed bark or leaves. The main chemical composition are Linalool, Benzaldehyde, Cinnamic, Furfurol, Eugenol, Safrole, Cymene, Dipentene, Phellandrene, Pinene. (Sellar, W) in cinnamon is cinnamaldehyde which is at about 50%. Other components include eugenol, eugenol acetate and benzyl benzoate [5]. Due to the high concentration of cinnamaldehyde, caution should be given when using the oil. Cinnamon oil can cause irritation to the skin and should never be used neat and be used with caution. When creating blends with cinnamon, no more that a 0.05% blend should be used with the bark oil and 0.5% blend with leaf oil [3].

Cinnamon has many therapeutic properties very calming to the digestive system and has a stimulating effect which helps to in-

crease metabolism which in turn can suppress the appetite. There are three main therapeutic effects that are helpful in weight loss first it helps reduce glucose levels. A study with 66 patients with type 2 diabetes that were divided into three groups showed that the patients who received different doses of cinnamon had a significant decrease in their fasting blood glucose levels [6]. There are many studies being done with cinnamon and weight loss and the effects on blood sugar with differing results and the need for increased study. Second, it helps reduce inflammation in the body. It has been shown that fat cells can cause one to gain weight. The reason for this weight gain is that some fat cells cause the body to be resistant to leptin, which is the chemical that tells our brains that we are full [7]. Cinnamon essential oil has the ability decrease these fat cells which in turn increases the leptin levels [8]. Lastly, cinnamon has been able show to improve insulin sensitivity. Cinnamon aids in metabolism by converting blood sugar into energy instead as storing it as fat. As with any remedies, one needs to consult a physician before using the essential oil.

As with grapefruit oil, inhalation is the safest method of use. Since cinnamon blends well with grapefruit, they can be combined to increase energy and suppress the appetite. Blending oil helps in build on the properties of each oils and can increase the overall effect desired. The most common method of blending is done by the note method. Ginger *Zingiber officiale* will be added to this blend as the base note as it has the weight loss property also. Gingers chemical components include Borneol, Citral, Cineole, Zingiberene, Camphene, Limonene and Phellandrene. (Sellar, W) Ginger has a warm, spicy earthy and woody scent and is steam distilled from the root of the plant. Ginger has been found to be a thermogenic agent which helps the body to burn fat [9]. A dutch study found that ginger can increase the metabolic rate by 20% and is recommended in the treatment of obesity. A study performed at the New York Obesity Nutrition Research center found that ginger "enhanced satiety and reduced hunger" when taken before breakfast [10]. As with all essential oils one should consult a physician before adding to the diet. Many suggest that ginger can be phototoxic so caution should be taken when applying ginger to the body and sun exposure.

A diffuser blend will contain between 10 and 25 drops of essential oils. Starting with the base note oil ginger, 3 drops will be used. Moving onto the middle note oil cinnamon, 6 drops will be used and lastly the top note oil grapefruit will have 9 drops added for a total of 18 drops. This blend can be diffused before meals for optimum benefit. This blend can also be used in a nasal inhaler and inhaled before meals to increase satiety and reduce hunger. Ginger has an uplifting effect on the emotions. This can aid in the emotional eating that one may experience.

Ingesting ginger oil can increase satiety and reduce hunger as the New York Obesity study showed. Some essential oils are not recommended for ingestion and one should take care when using ingesting as a method of use [11]. A good method to use when ingesting ginger is to add it to your favorite tea. Since essential oils

will need a carrier, adding 1-2 drops of ginger to a teaspoon of honey and mixing it with your tea makes a wonderful aromatic tea blend. If gastric upset occurs with this method the oil can be added to an empty capsule.

There is not much evidence on the topical application and aiding in weight loss but it can be used as a massage to help reduce the appearance of subcutaneous fat [7]. Since ginger can be irritating to the skin, a patch test should be done before any full application. Ginger should be used in a concentration of 1% to 1.5% and its maximum [3]. As with all essential oils, ginger should not be applied neat to the skin and should always be blended with a carrier oil.

Even though only three essential oils were discussed there are many other essential oils out there that can aid in one's weight loss efforts. Grapefruit, Cinnamon and Ginger seem to be on the top of many lists as the go to essential oils to aid in weight loss. Essential oils though are not the cure all and diet and exercise needs to also be a part of one's weight loss goal. Adding essential oils can aid in the weight loss journey by assisting with cellulite reduction, helping with emotional eating and depression [12-14].

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Conflict of Interest

Author declares no conflict interest.

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