



Inhaling Lemon-Oil Substances' Vapors for Relieving Blood Pressure

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Research Article

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Abstract

The study on alleviating blood pressure was carried on a series of essential-lemon oil products. The pure essential-lemon oils were obtained by solution extraction distillation, and were prepared for the assessment of acidity and saponification values. The composed oils from pure essential-lemon oils with black sesame oils and olive grape seed blending oils were prepared from oil and soap smells. The receptors of stimulated nanovapors from the essential oils and soaps were compared. The assist of bathing with water could be better for alleviating blood pressure. These results are for the research only.

Keywords: Essential-Lemon Oil; Acidity; Saponification; Receptor; NanoVapor

Introduction

Essential oils have been immensely studied for pharmacological activity [1]. The high concentration oils contain high amounts of fatty acids, which are large in molecular weight and generally cannot penetrate into the skin. The essential oils are composed of esters or alcohols. Although essential oils are classified as fats and oils, they are not very greasy to touch and are not easy to penetrate into body through skin.

Vegetable oils are indispensable in the cooking of our daily life. Common vegetable oils are often used, such as salad oil, olive oil, peanut oil, etc. The way of extracting vegetable oil is different, and the effect is different. Vegetable oils are mostly used as base oils for skin care products or oils. The general skin oil is cold-pressed vegetable oil, good absorption and water-soluble and fat-soluble vitamins. They are retained more, less oil, so the price is higher [2,3].

Pure essential oil is 100 vol % plant essential oil. The mixing with others is playing a role in professional medical

senses. The quality of fats and oils is difficult to judge by appearance color and taste. The physical detection of appearance is only one of the auxiliary conditions. The true quality requires chemical analysis to further develop the applicable oil. The general essential oil may be an inorganic chemical petroleum derivative called isopropanol. It is not harmful to the human body, but long-term use will bring heavy metals to the body and cause considerable damage to the brain and liver.

Although pure essential oils are organic chemicals, they must pay attention to the chemical molecules contained in them, such as: Eugenol. Volatilization may burn the mucous membrane, coumarin, soybean meal, and many others. It is better to use it in pure vegetable oils when using essential oils, which is called base oil. When making massage oil, generally 5 vol% of the essential oil formula requires 95 vol% of the base oil to assist in pushing and absorbing. It will cause irritation and sensitivity to the human body. The purpose of using the base oil is to dilute the concentration of the essential oil to help the body effectively absorb the essential oil [4-6].

By inhaling, smearing, bathing, massage, etc., it can enhance the function of the body's immune system. It has the ability to regulate metabolism and improve physical health. Such as: muscle, bone, digestion, breathing, circulation, urinary, nerve, skin, reproduction and other physiological reconciliation effects. Its aromatic molecules stimulate the nerves and guide the brain to think positively. It has a magical effect on relieving the stress of nervous anxiety, and can make the mood happy, get out of the depressed and depressed mood, and regain the new energy of life [7,8].

Essential-lemon oil is used in a wide range of essential oils. Its medical value has long been affirmed in the use of the digestive system, such as bloating, helping digestion, refreshing the tone, and even having a good effect on clearing blood and fighting sepsis. Lemon fruit contains various nutrients such as sugar, calcium, phosphorus, iron and vitamins B1, B2, C, etc. In addition, there are abundant organic acids and flavonoids, volatile oil, and orange peel. It is very helpful to promote metabolism, delay aging and enhance the body's resistance. Essential -lemon can stabilize mood, sleep and prevent insomnia with fresh sweet lemon scent. It promotes lymphatic circulation; activate immune system; lowering blood pressure. The therapeutic effect of essential-lemon oil increases self-confidence and resists depression.

Traditional Chinese medicine believes that lemon is warm, bitter, non-toxic, and has the functions of quenching thirst, promoting stagnation, stagnation, stomach and pain. The oil obtained by extracting oil seeds is mainly composed of triglyceride, which has a total fatty acid content of 90% or more, an unsaponifiable matter of 2 vol% or less, and an insoluble matter of 1vol% or less. Due to the high degree of refining, this product is mainly used for food. Soybean oil can be used in livestock and some aquatic products in combination [1].

The acid value can be used as an indirect indicator to test the quality of the oil. The more free fatty acids produced by hydrolysis, the higher the acid value. The acidity of the oil can be estimated from the acid value, which is called the indirect indicator because the acid price can only represent and does not directly represent the quality of the oil itself. The ratio of base oil can be adjusted. When the oil is hydrolyzed and saponified, the number of milligrams of KOH required for saponification of each gram of oil or fat is referred to as the saponification. The higher the saponification value, the greater the percentage of fat containing short chain low molecular weight glycerides [1].

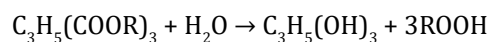
Experimental Purpose

Essential-lemon oils were used for treating high

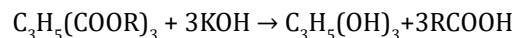
blood by folks technique. The effect of hypertension often may be very beneficial to improve symptoms and relieve it. Therefore, in this study, the alleviating of the blood pressure mainly study on the essential oils up to 10 vol%. The smells of the prepared oils were carried out for 30 mins. The dipping bathing was used at the temperature of 37°C for 10 mins.

Methods

The acid value was measured by neutralizing 1 gram of free fatty acid contained in fat or fat. The required number of milligrams of KOH is called acid value [5]. Weigh 5 g of the oil sample in a 250 ml Erlenmeyer flask. Add 80 ml of alcohol of 95 % to an equal amount of ether to dissolve, and add a phenolphthalein indicator to titrate with a 0.1 N KOH standard solution. The Acid value is obtained by 0.1N KOH ml \times 5.61 mg / sample weight. The oil was gradually hydrolyzed by the action of light and light to form free fatty acids and glycerin, so the acid value gradually becomes larger, so the acid value can indicate the freshness of the oil as follows.



The saponification value was also measured. The sample oil was weighed and placed in a 250 ml Erlenmeyer flask. It was added 25 ml of 0.5 N potassium hydroxide into alcohol and heat for 30 mins. When heating, shake the flask to make the grease saponified. After a little cold, the phenolphthalein indicator was added to the standard solution of 0.5 N HCl until the red color disappeared. At the same time, another 25 ml potassium hydroxide alcohol solution without the sample oil was subjected to a blank test under the same conditions as follows.



0.50 N HCl 1ml is equivalent to 0.50 N KOH 1ml. The saponification can be calculated by saponification value = $(Y-X) \times 28.05$ (mg) / sample weight. Where X is the number of milliliters of 0.5000 N HCl required for titration and Y is the number of milliliters of 0.5000 N HCl required for blank titration. Alcohol solution of potassium hydroxide: Take 30 g of KOH and melt it 95% into 20 ml of alcohol solution, then dilute it with alcohol to 1 L and used it.

The base oils of olive grape seed blending oil and pure lemon essential oil were mixed to make the 10 % lemon essential oil. Use 1 drop of olive grape seed blending oil and 10% lemon essential oil mixed in the mask and applied for 15mins and another pass for more 15mins. At mean time, it was improved efficiency by 2 drops of lemon essential oil in the aromatherapy furnace, and could refresh your mind. The saponification was olive grape seed blending oil and 10% pure lemon essential oil were mixed with NaOH to make

the lemon essential oil soap pieces previously. The bath temperature of water kept at 37°C and the body temperature was measured with for 15mins. The symptoms were thus measured gradually.

Results and Discussion

The lemon fat was extracted by solvent extraction and liquid-liquid extraction in separation process. The oils were used to separate compounds. It was relative to two immiscible liquids. The extraction method allowed a substance to be moved from one solution to another. The process obtained by distillation utilizes different boiling points of the components in the mixed liquid or liquid-solid system to evaporate the low-boiling components and then condensed to separate the unit operations of the entire component as shown in figure 1. It was a combination of two unit operations of evaporation and condensation. It has the advantage that it does not require the use of solvents other than the system components [1,7].



Figure 1: The pure essential-lemon oil was titration.

Figure 2 showed the acid values of various oils. The acid values of various kinds of oils linearly proportions mixed with pure essential-lemon oils to produce essential-lemon oils. The acid value of olive grape seed was about 5.0, and the three different essential values of lemon essential oils were determined. When preparing essential oil was fixed, the base oil was needed to decrease the acid value of lemon-essential oil. Therefore, it was more appropriate to use 10 vol% or less when blending. The glycerin reacts with the fatty acid increased the acid value. Fat C-C, this was the saturated fatty acid. If there is a double bond in the middle,

C=C is called a unit unsaturated fatty acid. The more double bonds, the more unstable the grease, the easier it is to oxidize and the acid are produced [1].

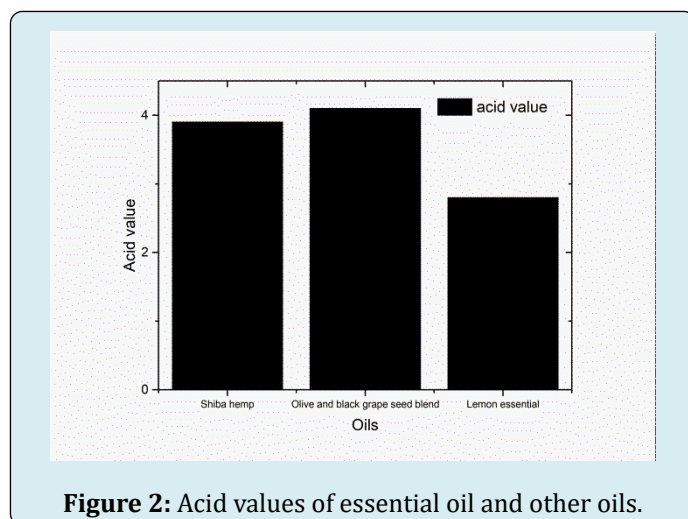


Figure 2: Acid values of essential oil and other oils.

The saponification values of the three kinds of oils were determined as shown in figure 3. The saponification value of black sesame oil and olive grape seed blending oil was tested about 205, and the relative saponification value of essential-lemon oil is 106. This demonstrates that the oils are mainly play a role of saponification.

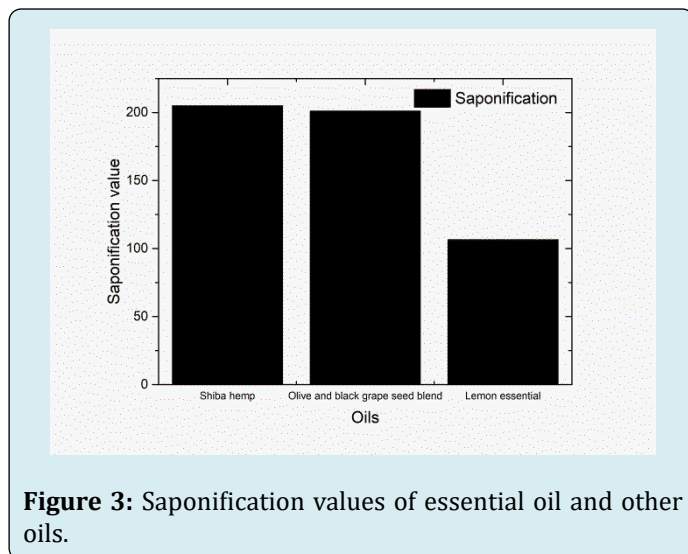


Figure 3: Saponification values of essential oil and other oils.

The different proportions of essential-lemon oil into olive grape seed blending oil for the smells were prepared with the time tests as shown in figure 4. It was measured the blood pressure values with 0, 5 and 10 vol% after half an hour as shown respectively. In the case of the addition of the 10 vol% essential lemon oil gives a great amount of blood pressure reduction.

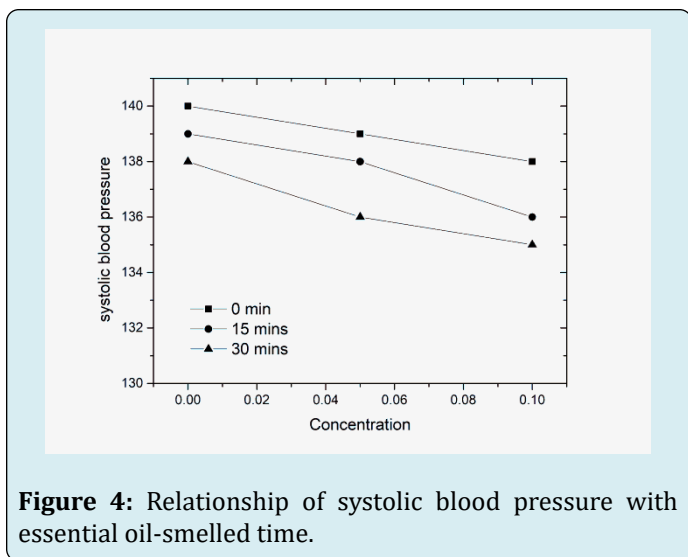


Figure 4: Relationship of systolic blood pressure with essential oil-smelled time.

The prepared soaps of the shiba hemp oil added with different proportions of lemon essential oil and keep at 37°C after bathing for 10 minutes. The results were shown as the figure 5. The measurement was performed at 0, 5, and 10 vol%. The effect was increasing up to 10 vol% ratios and was a slightly decreased than the use of smell only.

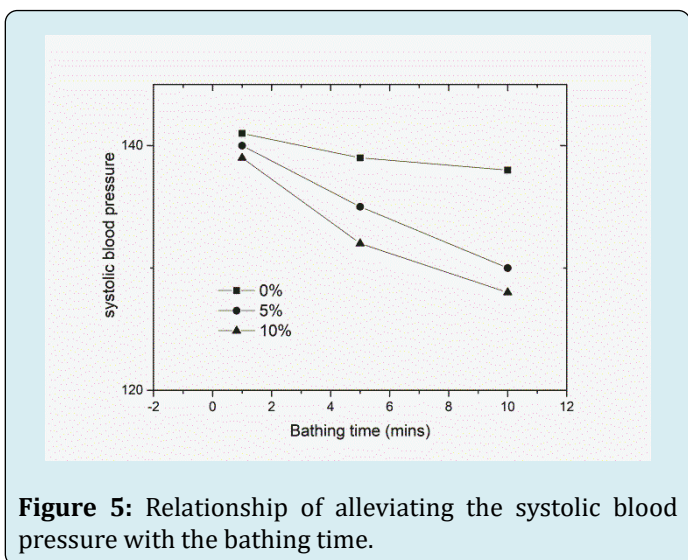


Figure 5: Relationship of alleviating the systolic blood pressure with the bathing time.

The accumulate volume of inhales of essential-lemon oils were measured and keep steady as shown in figure 6. The pure lemon-essential oils were prepared for essential-lemon oils with the black sesame oil and olive grape seed blending oil for smell. The effect is limited for alleviating the blood pressure only for inhaling. This demonstrated the lemon essential oils can be used for alleviating blood pressure by folks technique. The nanovapor of smell receptor receives a mild effect of alleviating the blood pressure. Furthermore, the shiba-hemp oils were mixed the essential-lemon oils for the saponification with NaOH. The effect of hypertension may

be beneficial to improve the symptoms. It could be regards to the effect of surrounding with water. The results were for the research purpose only.

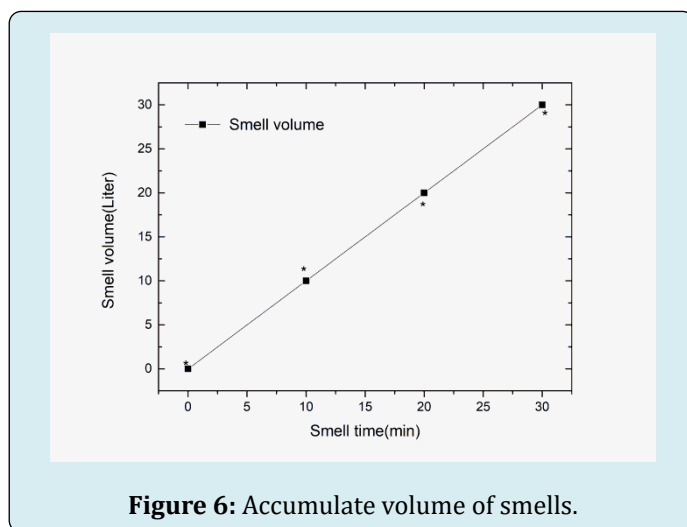


Figure 6: Accumulate volume of smells.

Conclusion

This practical research was based on the smells of essential-lemon oils and the soap bathing. The effect of alleviating systolic blood pressure was measured. The amount of the essential-lemon oil added to the olive grape seed blending oil is up to 10 vol %. With the increases of the additional lemon-essential oil, the systolic blood pressure decreases with the time of smell up to 30mins. The same additions of the essential-lemon oils were prepared to make the soaps preferably within 10 %. The smells of nanovapor molecules from the essential-lemon oils produced the optimal results within 10%. The effect of lowering blood pressure is slightly decreases with the smell. The bathing showed better results could be from the surrounding water. This is demonstrated the body-temperature receptor slightly affect with the temperature. The results were for the research purpose only.

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