

Review Article

Therapeutic benefits of lemongrass and tea tree

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Abstract

Lemongrass is a culinary herb with a lemony aroma. It is mostly cultivated in Southeast Asia, Sri Lanka, Indonesia and India. It is conventionally used for relieving anxiety, stress and pain. Because of the presence of limonene and citral, lemongrass extracts exhibit antimicrobial, antidandruff and anti-inflammatory effects. However, tea tree extracts are mostly employed in the treatment of dermal, inflammatory and microbial infections.

Introduction

Lemongrass is commonly used in Asian cooking because of its lemony aroma and citrus flavor [1]. Besides this, it is also employed in aromatherapy to reduce stress, pain etc and elevates the mood [2].

Bioactive constituents

Lemongrass is an enriched source of fiber, carbohydrates, Vitamin A, B and C that strengthens body immune system, repairs tissue damage and promotes cell division respectively [3,4], magnesium that is required for protein synthesis, glycolysis and muscle activity [5], selenium for cognitive function and fertility [6], phosphorus for DNA/RNA and cell membrane synthesis [7], zinc required for wound healing, normal growth and development [8].

Health benefits of lemongrass

Lemongrass offers numerous health benefits which are as follows:

- **Antioxidant properties:** Lemongrass possess numerous antioxidants such as isoorientin, chlorogenic acid and swertiajaponin which aids in hunting free radicals that may cause disease [9]. **Antimicrobial properties:** Lemongrass extracts exhibit antimicrobial potency against *Streptococcus mutans* and thus used to prevent tooth decay [10].
- **Anti-inflammatory properties:** Anti-inflammatory property of Lemongrass is attributed to the presence of compounds citral and geraniol which helps in preventing the release of certain inflammation-causing markers in our body [11].

More Information

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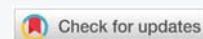
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- **Anticancer properties:** Presence of bioactive citral in Lemongrass helps fight cancer either by apoptosis or boosting immune system [12].
- **Promotes healthy digestion:** Lemongrass tea is reported to treat stomach discomforts, indigestion and gastric ulcers by protecting stomach lining [13].
- **Reduce high cholesterol:** Lemongrass extract assisted in lowering high cholesterol levels in humans [14]. **Treats obesity:** Lemongrass tea helps in losing excess of weight in obese patients [15].
- **Skin treatment:** Research indicated that lemongrass essential oil is used as a therapeutic agent for the treatment of inflammatory skin conditions [16].
- **Repellent:** Lemongrass extract is used in the preparation of insect repellents due to the presence of compounds citral and geraniol [17].
- **Controls dandruff:** Lemongrass oil is used in hair tonics to reduce dandruff through its antimicrobial and anti-inflammatory properties [18]. It also inhibits the growth of fungi *M. furfur* that is associated with dandruff [19].
- **Prevents anemia:** Research reported that since

Lemongrass is an enriched source of iron and other minerals, it promotes erythropoiesis to prevent the symptoms of anemia [20].

- **Treats oral issues:** Lemongrass extracts help fight inflammation of gums and cavities [21].

Side effects of lemongrass

Lemongrass is usually considered safe to use in cooking however if consumed in excess may exhibit potential side effects such as tiredness, dry mouth, dizziness, increased appetite, frequent urination, allergic reactions such as itching and rash [22,23]. Moreover avoid its use during pregnancy since it starts menstrual flow [24].

Tea tree is native to Queensland and New South Wales, Australia and is botanically known as *Melaleuca alternifolia* [25]. Tea tree oil has been used as a conventional medicine by Aborigines and Australians for treating common cold and cough [26]. Tea tree extract contains terpinen-4-ol, which is an antimicrobial agent and enhances white blood cells activity against foreign pathogens [27].

Health benefits of tea tree extracts

Tea tree offers numerous health benefits which are as follows:

Antiseptic: Tea tree extract is used in the preparation of hand sanitizer and cleansers since it is effective against infection causing bacteria and viruses including *E. coli*, *S. pneumoniae* and *H. influenzae* [28].

Repellent: Tea tree extract has the property to repel insects such as mosquitoes, bees, wasps, ants etc making it suitable to be used as a repellent [29].

Antifungal/Antibacterial: Tea tree oil is used in the treatment of fungal nail infection (onychomycosis), and bacterial acne [30]. In addition it also aids in relieving inflamed skin such as contact dermatitis [31].

Treats dermal infections: Tea tree oil helps in the treatment of dry skin by reducing itching, eczema, combat oily skin, acne lesions and contact dermatitis [32].

Anti-inflammatory: Tea tree extract reduces inflammation due to high content of terpinen-4-ol, it soothe and relieve painful irritated skin [33].

Wound treatment: The antibacterial activity of tea tree extract makes it an effective wound healer [34].

Hair/scalp treatment: Tea tree extract is reported to be antidandruff therefore is suitable in treating hair dandruff and itchy scalp [35].

Conclusion

Thus Tea tree and Lemongrass both are widely used for its numerous health benefits and in treating several ailments.

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