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A Summary of How to Utilise Cloves for Oral and General Health

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ABSTRACT
Background: Herbal medicine is currently gaining popularity as a secure and reliable method of treating a wide range of medical issues. Because they are organic and do not introduce dangerous chemicals into the body, herbs are frequently favoured. Fresh herbs can also be found as roots, extracts, powders, capsules, and other forms. Some people favour cultivating their own food. Always consult a professional before using herbs as a supplement or a medical treatment. Botanicals have long been utilised by traditional healers to prevent or treat infectious infections (1). The fragrant dried flower buds known as cloves come from the Syzygium aromaticum tree, a member of the Myrtaceae family. The Maluku islands in Indonesia are the place where cloves originated, and they are used as a spice in dishes all over the world. Indonesia, India, Madagascar, Zanzibar, Pakistan, and Sri Lanka are the main countries where cloves are harvested.

Keywords: Dentistry, Oral, Health, Clove

1. INTRODUCTION

Cloves range in length from around 1/2 to 3/4 inch and have an essential oil content of 14–20%. Due to the high concentration of eugenol in cloves, which can be extracted through distillation to produce the essential oil, cloves have a potent aroma. When used medicinally, clove buds have been thought to be safe when taken orally. Humans have been using cloves for therapeutic purposes for more than 2000 years (1).
Cloves are naturally grown in India, the West Indies, Tanzania, Sri Lanka, Brazil, Madagascar, and the Moluccas spice islands of Indonesia. Cloves have been used as a nutritional spice for food and a cure for a number of health issues for hundreds of years because of its potent essential oil components and seductive sweet aromatic flavour.Clove flowers and oil have been used extensively in traditional Chinese and Indian medicine for more than 2,000 years (2).
It is an evergreen shrub that grows 10 to 20 metres tall. It has spear-shaped leaves and racemiferous yellowish flowers. Its essential oil is a colourless or light yellowish fluid that is produced from dried flower buds (3).
Around 1800 AD, the East India Company planted a "spice garden" in Courtallam, Tamil Nadu, where clove was first introduced to India. Clove cultivation was expanded after 1850

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AD to Nilgiris (Burliar), the southern portion of the former Travancore State, and the slopes of the Western Ghats as a result of the success of its introduction. Nilgiris, Tirunelveli, Kanyakumari, Nagercoil, and Ramanathapuram districts in Tamil Nadu; Kozhikode, Kottayam, Kollam, and Thiruvananthapuram districts in Kerala; and South Kanara district in Karnataka are currently the key clove-growing districts in India.

A drop of clove oil has 400 times more antioxidant potential per unit than blueberries or wolfberries. Clove usage has long been acknowledged to have positive health effects. It is helpful as a natural cure for treating a variety of illnesses and conditions. The clove buds have a wide range of medical and recreational benefits in addition to their culinary ones (4).

Clove and clove oil have therapeutic uses:

Organic Syzygium For dental cavities, pyorrhea, and toothaches, clove oil (Laung) is administered.

- Popular treatment for digestive system issues, sore throat, dental and respiratory issues, headaches, and Australia and the Asian nations. [1]
- The growth of S. Mutans is prevented by a hot water extract of the clove plant. [2]
- Actinobacillus actinomycetemcomitans, Capnocytophaga gingivalis, Fusobacterium nucleatum, Porphyromonas gingivalis, Prevotella intermedia, Prevotella melaninogenica, Staphylococcus aureus, Pseudomonas aeruginosa, Candida albicans, and Escherichia coli are all susceptible to the antimicrobial effects The clove oil's antibacterial activity implies that it could be used as an adjunct to periodontal therapy. Clove is used orally to prevent the overgrowth of C. Albicans in the digestive system, especially the mouth. [3]
- When used to treat aphthous ulcers, clove oil in the form of clove paste functions as a biocide, active against invasive bacteria, fungus, and even invading larvae. [4]
- Eugenia is used to treat peptic ulcers and has anti-inflammatory, analgesic, antipyretic, and antifungal qualities. At 0.025 ml/kg, significant anti-inflammatory action is discovered. [5]
- Serves as an anti-inflammatory and antioxidant at low concentrations, but at greater doses, it becomes a pro-oxidant due to the increased production of tissue-damaging free radicals. By providing a hydrogen atom, typically from a phenolic hydroxyl group, antioxidants are thought to neutralise the free radicals in lipid chains, turning phenolic groups into stable free radicals that do not initiate or spread additional oxidation of lipids. [6]
- On oral hard tissues, clove oil reduces the quantity of plaque buildup. [7]
- Root canal bacteria can be reduced with clove extracts. [8]
- Against S. mutans and Enterococcus faecalis, clove has demonstrated antibacterial action. [9]
- A cooling and anti-inflammatory impact of clove oil helps to clear the nasal passageway, which helps with respiratory issues. These expectorants are beneficial for treating a variety of respiratory conditions include bronchitis, sinusitis, asthma, coughs, colds, and tuberculosis. To relieve sore throats, chew a clove bud. [10]
- Warm clove oil and sesame oil combined together are an effective treatment for earaches. [11]
- Combination (as in Yaji) has no negative consequences but may have advantages for customers. [13]

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- Clove hydro-alcoholic extract exhibits potent anti-stress properties. The high dose of clove extract both delays the onset of cold constraint stress-induced stomach ulcers and lowers levels of biochemical cell-damage indicators. [12]
- Clove aqueous extract reduces inflammation by acting as an anti-inflammatory. The extract can prevent both acute and chronic inflammation and controls a series of metabolic processes that help the inflammatory response spread and develop. Edema and granuloma development is inhibited, and the extract is reported to lower high levels of various biochemical indicators linked to inflammation and oxidative stress. [13]
- Numerous medical uses are made of eugol (l-hydroxy-2-methoxy-4-allylbenzene), a naturally occurring chemical found in honey and other plant extracts like clove. [14]
- Despite the fact that it has not yet received approval for these uses in the majority of nations, clove oil (also known as eugenol) is a good anaesthetic for aquaculture and sheries use. This is primarily because applications for regulatory approval lack the supporting animal and human safety testing that is required. [15]
- When employed in aquaculture and fisheries research, clove oil has been shown to be an efficient, affordable anaesthetic and euthanizing agent for a variety of fish species, including rainbow trout. [16]
- In mice, acute treatment of a clove ethanolic extract improves learning and memory recall, supporting the antioxidative effect of the clove's eugenol component. [17]
- In female rats, the clove ethanol extract demonstrated excellent hepatoprotective efficacy against paracetamol-induced liver injury. Clove components functioning as free radical scavengers and catching those radicals implicated in paracetamol breakdown by microsomal enzymes could be a potential mechanism by which clove protects against paracetamol-induced liver injury. [18]
- Clove ethanol extract showed good hepatoprotective effect against paracetamol-induced liver damage in female rats. One putative mechanism by which clove guards against paracetamol-induced liver damage is the action of clove components as free radical scavengers, which trap those radicals implicated in paracetamol breakdown by microsomal enzymes. [19]
- To promote peristalsis, raise stomach hydrochloric acid, and act as a carminative, cloves are employed. It is also claimed that cloves are a natural anthelmintic. [20]
- S. aromaticum contains the ellagi tannin tellimagrandin II, which has anti-herpesvirus effects. [14]
- At a dose of 7 L/ha in 30-35 minutes, clove oil causes 100% mortality in mosquitoes like Anopheles stephensi, Aedes aegypti, and Culex quinquefasciatus. [16]

2. CONCLUSION

The therapeutic value of clove is well known, and it has been used for a wide range of purposes including antioxidant, antifungal, antiviral, antibacterial, antiinflammatory, antithrombic, antipyretic, analgesic, anticonvulsant, antimycotic, insecticidal, antimutagenic, and antiulcerogenic. The oil is used to cure a wide range of health issues, including stress and blood issues as well as toothaches, indigestion, cough, asthma, and headaches.Intestinal parasites,migraine headaches, colds, impotence, and gastrointestinal issues like nausea, vomiting, diarrhoea, and gas are just a few of the diseases that clove is used to cure. There is a lot of room for researchers to use clove to create potent compositions.

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