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A Review On Phytomedicine In Clinical Practice

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ABSTRACT

One could argue that clove is the most potent antioxidant currently known. The U.S. Department of Agriculture created the Oxygen Radical Absorption Capacity (ORAC) test as a way to compare antioxidant activity. Clove's ORAC value is higher than 10million. A drop of clove oil contains 400 times the antioxidant power of wolf berries or blueberries. People have been aware of cloves' health advantages for thousands of years. It is an effective natural remedy for many ailments. In addition to its culinary uses, clove buds have many medicinal and recreational uses.

Home kitchens account for the majority of clove spice consumption worldwide. Nonetheless, the clove is used commercially to make clove oil, which contains active ingredients with anti-inflammatory, anti-thrombotic, anti-fungal, anti-viral, anti-microbial, anti-diabetic, anaesthetic, pain-relieving, and insect-repellent qualities. The primary ingredient in clove buds that gives them their therapeutic qualities is eugenol. Given the foregoing, we felt it was worthwhile to put together a current review paper on cloves that covers their chemical components, synonyms, phytopharmacology, and therapeutic applications.

KEY WORDS: -

Introduction, common name, Synonyms, Chemical constituents, Medicinal used

INTRODUCTION: -

Cloves are about 1/2 and 3/4 inches long and contain 14–20% essential oil. Eugenol, which may be extracted by distillation to produce the essential oil, is the main ingredient that gives cloves their powerful scent. Clove buds are thought to be harmless. When used medicinally and taken orally. For more than 2,000 years, [1]. people have utilized cloves for therapeutic purposes. Cloves are native to Indonesia's Moluccas spice islands, but they can also be found growing naturally in Tanzania, Sri Lanka, Brazil, Madagascar, India, and the West Indies. Because of its powerful essential oil components and enticing, sweet, aromatic flavour, cloves have been used for hundreds of years as a culinary spice and a remedy for a variety of ailments. For almost 2,000 years, clove oil and flowers have been utilized extensively in traditional Indian and Chinese medicine. Cloves are fragrant flower buds produced by the Myrtaceae tree Syzygium aromaticum [2].

They are indigenous to Indonesia's Maluku Islands, sometimes known as the Moluccas, and are frequently used as spices. Cloves are accessible all year round because of many.

COMMON NAME: -

Cloves, Caryophyllus, Carophyllus, and Cloves

BOTANICAL NAME: -

Eugenia caryophyllus, Syzygium aromaticum

SYNONYMS NAME OF CLOVE

Varala, Bhadrasriya, Devakusuma, Deva Puspa, Karampu, Lavanga, Lavangaka, and Lavangam

Hindi: Laung, Laumg, Lavang.
Malayalam: Grampu, Karampu, Karayampu.
Marathi: Luvang
Kannada: Lavanga, Daevakusuma, Krambu
Tamil: Kirampu, Ilavankam, Kiraambu, Kirambu, Grambu.
Telugu: Devakusumamu, Lavangamu, Lavangalu, Kaaravallu
Bengali: Lavanga.
Gujarati: Lavang
Punjabi: Laung.

Biological source: -

The dried flower buds of Syzygium aromaticum, an evergreen tree also called Eugenia caryophyllata, are the biological source of clove.

GEOGRAPHICAL SOURCES: -

The clove tree is indigenous to Indonesia. The islands of Sumatra, Brazil, Amboina, Pemba, and Zanzibar are where it is primarily farmed. It is also found in the West Indies, India, Ceylon, Mauritius, Madagascar, and Penang.

MICHROSCOPICAL CHERECTER OF CLOVE: -

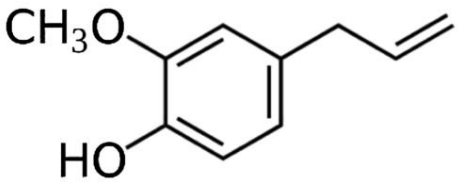
COLOUR: - Dark brown
ODOUR: - Slightly Aromatics
TEST: - Aromatic Pungent Bitter and Spicy
SIZE: - Length (12-17mm), Diameters(3-4mm).
SHAPE: - Globular And Reticular Wrinkled

CULTIVATION AND COLLECTION: -

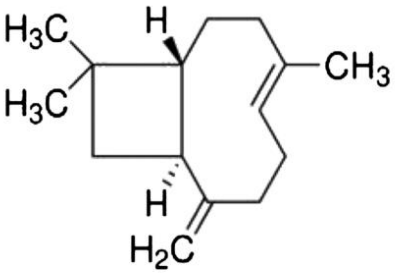
The evergreen clove tree grows 10 to 20 meters tall. The plant needs a climate that is warm, humid, and temperate with evenly spaced rainfall. Seeds are the means of propagation. The seeds are planted 25 cm apart in good, well-drained soil. The plants should be safeguarded against pests and plant diseases. Initially it has to be sheltered from sunlight by growing inside a green house or by creating frames approximately 1 m high and covering them with banana leaves. The young seedlings receive more and more sunlight as the banana leaves progressively deteriorate, and by the time they are nine months old, the seeds can withstand full sunlight. Shortly before the rainy season, the seedlings are moved into open areas six meters away once they reach a height of one meter. Banana trees planted in between the young clove trees provide even longer protection from the sun.[8]. The medication can be taken annually from the age of six until the patient turns seventy.

CHEMICAL CONSTITUENT: -

There is 14–21% volatile oil in cloves. Gallotannic acid, eugenol, acetyl eugenol, and two crystalline principles—methyl furfural, gum, resin, fibre, and α- and β-caryophyllenes—are among the remaining ingredients [7,1]. Eugenol is a colourless liquid, but caryophyllene looks to be a phytosterol and has no smell. Eugenol, which makes up 60–90% of clove oil, is what gives it its anaesthetic and antibacterial qualities.



Eugenol



Beta-caryophyllene

- **EUGENOL ($C_{10}H_{12}O_2$)** It gives cloves their distinctive scent and many of their therapeutic qualities, including as their analgesic, anti-inflammatory, antibacterial, and antioxidant actions [12].With eugenol accounting for between 70 and 90 percent of the oil content, it is the most prevalent compound in clove essential oil.

- **BETA CARYOPHYLLENE ($C_{17}H_{26}$)** Another important substance present in clove oil is sesquiterpene. It adds to the oil's medicinal effects, particularly for the reduction of pain and inflammation, and is well-known for its analgesic and anti-inflammatory qualities.

- **TANNINS** Clove's anti-inflammatory and antioxidant qualities are attributed to its abundance of tannins. Additionally, tannins are thought to have antibacterial properties, especially when it comes to treating gastrointestinal disorders**.**

MEDICINAL USE:-

Clove has several uses, including as an aromatic, carminative, stimulant, antimicrobial, and flavoring. It also has antiemetic and anodyne properties. Dentists use clove oil to clean the root canals and as an oral anesthetic. Diarrhea, intestinal worms, and other digestive disorders are treated with clove because it eliminates intestinal parasites and has wide antibacterial qualities against bacteria and fungi. Oil of cloves can prevent toothaches. Cloves are considered to have aphrodisiac properties, and a few drops of oil in water can prevent vomiting.[3,4,5,6]

Cloves are considered to have aphrodisiac properties, and a few drops of oil in water can prevent vomiting. In tiny quantities, eugenol is also employed as a local anesthetic. Peristalsis is stimulated by the oil; it is a powerful germicide that also stimulates expectoration in cases of bronchitis. Alkalies and aromatics are well-transported by the infusion and clove water.

1. PAIN RELIEF

Pain Management (Analgesic Impact) Because of its analgesic qualities, which are mainly ascribed to eugenol, clove oil is frequently used to treat toothaches and dental discomfort. Eugenol numbs the painful area by acting as a local anaesthetic. Its efficacy in lowering dental pain and inflammation has been demonstrated by studies [10].

2. DIGESTIVE HEALTH

Cloves are also used to cure motion sickness and nausea, which are symptoms of dyspepsia. By promoting the synthesis of digestive enzymes, clove facilitates digestion and reduces gas, bloating, and indigestion.

3. RESPIRATORY HEALTH

Because of its antiviral and antibacterial qualities, clove has long been used to treat colds, coughs, and other respiratory conditions. It eases sore throats and removes mucous.[11]

4. REGULATION OF BLOOD SUGER

Clove may help control blood sugar levels by improving insulin sensitivity, according to some research, which makes it beneficial for diabetics and others at risk of getting the disease.

CANCLUSION: -

A significant medication, clove is said to have a wide range of uses, including antibacterial, antifungal, antiviral, antifungal, antithrombic, antipyretic, analgesic, anticonvulsant, antimycotic, insecticidal, antimutagenic, antiulcerogenic, and more. Numerous medical conditions, such as toothaches, indigestion, coughing, asthma, headaches, stress, and blood issues, can be treated with the oil. The important and adaptable spice clove (Syzygium aromaticum) has many therapeutic, nutritional, and aromatic uses. Its active ingredients, especially eugenol, have strong analgesic, antibacterial, anti-inflammatory, and antioxidant effects. Because of these characteristics, clove is a crucial part of traditional medicine and a good option for contemporary medicinal uses.

The study's conclusions highlight the significance of include clove in regular meals and medical procedures in order to promote wellbeing and fend off a number of illnesses. The best dosage, possible adverse effects, and therapeutic applications of clove in clinical settings should be the main topics of future research to guarantee its safe and efficient application in the global healthcare system.

Intestinal parasites, migraine headaches, colds, impotence, and gastrointestinal issues like nausea, vomiting, diarrhea, and gas are among the ailments that clove is used to cure. Researchers have a lot of room to create effective compositions with clove.

REFERENCE: -

1. Comparative analysis of the impact of crude aqueous (ca) and solvent (cm) extracts of clove on the cariogenic characteristics of Streptococcus mutans was conducted by Rahim AHZ and Khan GSBH. Journal of Oral Science, 48 (3), 2006, 117-123.
2. According to Bhowmik D, Kumar KPS, Yadav A, Srivastava S, Paswan S, and Dutta AS, Syzygium Aromaticum: Recent Developments in Indian Traditional Herbs and Their Health Advantages. Pharmaceutical and Phytochemistry Journal, 1(1), 2012, 13–23.
3. Prasad R, Vijay VK, Srivastava AK, and Sofia PK. Indian spices' antibacterial efficacy against common foodborne pathogens is assessed. Food Science Technology Int. 42(8):910-915, 2007. [Google Scholar]
4. Dorman HJ, Deans SG. Plant-based antimicrobial agents: antibacterial properties of plant volatile oils. Microbial. J Appl. 2000;88(2):308–316. [PubMed] [Google Schola].
5. Lett Appl Microbial. Burt SA, Reinders RD. Antibacterial activity of certain plant essential oils against Escherichia coli O157:H7. 36(3):162-167, 2003. [Med] [Scholar on Google]
6. Listeria monocytogenes and Escherichia coli O157:H7 colony biofilms are inhibited and rendered inactive by micellar-encapsulated eugenol and carvacrol, according to Pérez-Conesa D, McLandsborough L, and Weiss J. Food Prot. 69(12):2947–2954, 2006. [PubMed] [Researcher]

7. Neveu V, Crespy V, Vos F, du Chaffaut L, Mennen L, Perez-Jiménez J, et al. and others. Phenol Explorer is a comprehensive online database about the number of polyphenols in food. Reference: 10.1093/database/bap024.
8. Shan B, Cai YZ, Sun M, and Corke H. 26 spice extracts' antioxidant capacity and the phenolic components they contain. Agric Food Chemistry Journal, 53(20): 7749–7759, 2005.
9. Schmidt E, Stoilova I, Stoyanova A, Buchbauer G, Jirovetz L, and Krastanov A. The chemical makeup and antioxidant qualities of clove leaf essential oil. Journal of Agric Food Chemistry, 54(17):6303–6307. [PubMed] [Scholar]
10. In 2008, K. T. M. P. S. C. R. K. B. wrote "Eugenol: Pharmacology and Therapeutic Use." Pharmacotherapeutics & Pharmacology Journal.
11. According to B. S. S. K. S. (2014), "Clove (Syzygium aromaticum) and its Health Benefits in Respiratory Diseases." Journal of Tropical Disease in Asia-Pacific.
12. In 2015, S. R. M. R. M. and colleagues published "Chemical Composition of Clove Oil and Its Medicinal Applications." Journal of Essential Oil Therapeutics International.