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A REVIEW ARTICLE ON PHYTOMEDICINE "CLOVE"

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ABSTRACT

Clove may be looked upon as a champion of all the antioxidants known till date. The Oxygen Radical Absorption Capacity (ORAC) test is a scale developed by U.S. Department of Agriculture for comparing anti-oxidant activity. The ORAC score, of clove is over 10 million. A drop of clove oil is 400 times more powerful as an anti-oxidant than wolf berries or blueberries. Health benefits from the use of clove have been known over the centuries. It is beneficial as a home remedy in curing several ailments / diseases. In addition to its culinary uses, the clove buds have an abundance of medicinal and recreational uses. The major part of the world's consumption of the clove spice is in the home kitchens. However, commercial use of the clove is for the production of clove oil that contain active constituents, which possess antioxidant, anti-fungal, anti-viral, anti-microbial, anti-diabetic, anti-inflammatory, antithrombotic, anesthetic, pain reliving and insect repellent properties. Eugenol is the main constituent responsible for the medicinal properties of the clove bud. In the light of above, we thought it worthwhile to compile an up-to-date review article on clove covering its, synonyms, chemical constituents, phytopharmacology and medicinal uses.

KEY WORDS: Introduction ,common name, Synonyms, Chemical constituents, Medicinal used,

INTRODUCTION :- Cloves vary in length from about 1/2 to 3/4 inch and contain 14-20% essential oil. Cloves are strongly pungent due to their high content of eugenol, which can be extracted by distillation to yield the essential oil. Clove buds have been regarded as safe when taken orally for medicinal use. Cloves have been used by humans for medicinal applications for over two thousand years [1]. Indigenous to the Moluccas spice islands of Indonesia, cloves also grow naturally in India, the West Indies, Tanzania, Sri Lanka, Brazil and Madagascar. With their sultry sweet aromatic flavor and powerful essential oil compounds, cloves have been used for hundreds of years as a nutritional spice for food and a remedy for a variety of health concerns. For over 2,000 years, both Indian and Chinese traditional medicine made extensive use of clove flowers and clove oil[2]

Cloves are the aromatic flower buds of a tree in the family Myrtaceae, *Syzygium aromaticum*. They are native to the Maluku Islands (or Moluccas) in Indonesia, and are commonly used as a spice. Cloves are available throughout the year owing to different



harvest seasons in different countries.



COMMON NAME :-

Cloves, Carophyllus, Clovos, Caryophyllus

Botanical Names

Eugenia caryophyllus, *Syzygium aromaticum*

Names in Indian languages:-

Sanskrit: Bhadrasriya, Devakusuma, Devapuspa,

Haricandana, Karampu, Lavanga, Lavangaka, Lavangam,

Varala.

Hindi: Laung, Laumg, Lavang.

Malayalam: Grampu, Karampu, Karayampu.

Marathi: Luvang

Kannada: Lavanga, Daevakusuma, Krambu

Tamil: Kirampu, Ilvankam, Kiraambu,

Kirambu, Grambu.

Telgu: Devakusumamu, Lavangamu, Lavangalu,

Kaaravallu

Bengali: Lavanga.

Gujarati: Lavang

Punjabi: Laung

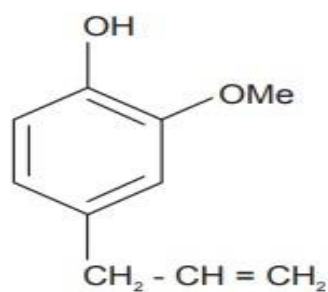
Synonyms:- Clove buds, Clove flowers.

Biological Source :- Clove consists of the dried flower buds of *Eugenia caryophyllus* Thumb., belonging to family Myrtaceae.

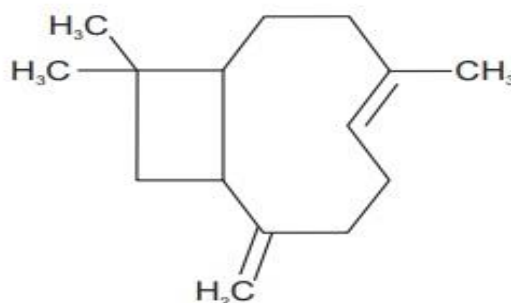
Geographical Sourc :- Clove tree is a native of Indonesia. It is cultivated mainly in Islands of Zanzibar, Pemba, Brazil, Amboiana, and Sumatra. It is also found in Madagascar, Penang, Mauritius, West Indies, India, and Ceylon.

CULTIVATION AND COLLECTION :- Clove tree is evergreen and 10 to 20 m in height. The plant requires moist, warm and equable climate with well-distributed rainfall. It is propagated by means of seeds. The seeds are sown in well-drained suitable soil at a distance of about 25 cm. The plants should be protected against pests and plant diseases. Initially it has to be protected from sunlight by growing inside a green house or by constructing frames about 1 m high and covering them with banana leaves. As the banana leaves decay gradually more and more sunlight falls on the young seedlings and the seeds are able to bear full sunlight when they are about 9 months old. The seedlings when become 1 m high, they are transplanted into open spaces at a distance of 6 m just before the rainy season. The young clove trees are protected from sun even for a longer period by planting banana trees in between. The drug can be collected every year starting from 6 years old till they are 70 years old.[8]

CHEMICAL CONSTITUENTS :- Clove contains 14–21% of volatile oil. The other constituents present are the eugenol, acetyl eugenol, gallotannic acid, and two crystalline principles; α - and β - caryophyllenes, methyl furfural, gum, resin, and fibre. Caryophyllin is odourless component and appears to be a phytosterol, whereas eugenol is a colourless liquid. Clove oil has 60–90% eugenol, which is the cause of its anesthetic and antiseptic properties.[7,1]



Eugenol



Caryophyllene

MEDICINE USES :- Clove is used as an antiseptic, stimulant, carminative, aromatic, and as a flavouring agent. It is also used as anodyne, antiemetic. Dentists use clove oil as an oral anesthetic and to disinfect the root canals. Clove kills intestinal parasites and exhibits broad antimicrobial properties against fungi and bacteria and so it is used in the treatment of diarrhea, intestinal worms, and other digestive ailments. Clove oil can stop toothache. A few drops of the oil in water will stop vomiting, eating cloves is said to be aphrodisiac. Eugenol is also used as local anaesthetic in small doses. The oil stimulates peristalsis; it is a

strong germicide, also a stimulating expectorant in bronchial problems. The infusion and Clove water are good vehicles for alkalies and aromatics.[3,4,5,6]

CONCLUSION :-

Clove is a medicinally important drug, reported to have a variety of different applications like antioxidant, antifungal, antiviral, antibacterial, anti-inflammatory, antithrombotic, antipyretic, analgesic, anticonvulsant, antimycotic, insecticidal, antimutagenic, antiulcerogenic etc. The oil is used for treating a variety of health disorders including toothaches, indigestion, cough, asthma, headache, and stress and blood problems. Clove is used to treat various health conditions, including intestinal parasites, migraine headaches, colds, impotence, and gastrointestinal problems such as nausea, vomiting, diarrhea and gas. There is a great scope for researchers to develop efficacious formulations using clove.

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