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### Recent Trends in Indian Traditional Herbs *Syzygium aromaticum* and its Health Benefits

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Cloves (*Syzygium Aromaticum*), many medicinal uses have been most famously applied to toothache, and for mouth and throat inflammation. The clove has been used in India and China, for over 2,000 years, as a spice to check both tooth decay and counter halitosis that is bad breath. In Persia and China, it was considered to have aphrodisiac properties. Cloves have historically been used in Indian cuisine (both North Indian and South Indian). In the north Indian cuisine, it is used in almost every sauce or side dish made, mostly ground up along with other spices. More than just a counterirritant though, the German Commission E Monographs list cloves as having antiseptic, antibacterial, antifungal and antiviral properties. One of the main constituents of clove oil (eugenol) exhibits broad antimicrobial activities against both Gram-positive, Gram-negative and acid-fast bacteria, as well as fungi. Cloves are well known also for their antiemetic (relieves nausea and vomiting) and carminative properties. The oldest apparent medicinal use of cloves was in China, where it is reported that they were taken for various ailments as early as 240 BC. Cloves were taken over the centuries for diarrhea, most liver, stomach and bowel ailments, and as a stimulant for the nerves. Traditionally cloves have been used to treat flatulence, nausea and vomiting. In tropical Asia cloves have been given to treat such diverse infections as malaria, cholera and tuberculosis, as well as scabies. Traditional uses in America include treating worms, viruses, candida, various bacterial and protozoan infections. Laboratory tests on cloves identify eugenol as being the possible reason for the antimicrobial actions, and confirm cloves' effectiveness in inhibiting food-borne pathogens as well as other bacteria and fungi. The volatile oil of cloves (about 85-92% eugenol) was highly active against a range of test microorganisms, being classified as bactericidal in nature. Along with the recreational uses of cloves, they are also said to be a natural anthelmintic.

**Keyword:** *Syzygium Aromaticum*, Health Benefits, Cloves

#### 1. Introduction

Cloves are an aromatic herb that has many useful purposes. The aroma of the clove is pleasant yet spicy and can be used to make drawers and closets smell nice. Cloves has some medicinal purposes as well and it tastes good in certain dishes like spice cake. Cloves like to grow in hot tropical climates like the islands of Indonesia. The clove plant is an evergreen tree that can reach a height of thirty or forty feet high. The

leaves of the clove are leathery textured and are covered with many tiny depressions. The part of the clove that is used is the flower buds of the clove. The aromatic oils of the clove have a stimulant and irritant effect. Cloves can increase blood circulation and raise a person's temperature slightly. The oils of the cloves have been known to stimulate and disinfect a body as it travels through the body. Clove can be used to promote the flow of saliva and gastric juices. If you have

stomach pain or gas in the stomach then the use of cloves can help to relieve the stomach pain. You can prepare a cup of clove tea by taking a cup of boiling water and adding a teaspoon of clove powder to it. Then let the water and clove steep for a few minutes before you drink it. Clove tea has been known to relieve nausea and vomiting. When cloves are used externally on the body it can relieve the pain in chronic rheumatism, toothache and lumbago. Cloves can also help to relieve the pain of muscle cramps and some nerve conditions. You can apply clove oil along the nerve where the pain is. To deodorize a smelly drawer or closet you can put some cloves in a small container that is open and let it sit in the drawer or closet. Leave the container open and put it in a place that it will not spill. Or you can tie up a handful of cloves in a handkerchief and put it in a closet or drawer. The scent of cloves is pleasant and nice. Cloves are a very useful herb that has many uses for the body and the aroma. Cloves can be used to spice up foods like a ham or cake. Cloves can be purchased in a power form or it can be in a dried whole flower bud form. You can buy cloves in a grocery store in the spice section. Clove is an herb. People use the oils, dried flower buds, leaves, and stems to make medicine. Clove is used for upset stomach and as an expectorant. Expectorants make it easier to cough up phlegm. Clove oil is used for diarrhea, hernia, and bad breath. Clove and clove oil are used for intestinal gas, nausea, and vomiting. Clove is applied directly to the gums (used topically) for toothache, for pain control during dental work, and for a complication of tooth extraction called “dry socket.” It is also applied to the skin as a counterirritant for pain and for mouth and throat inflammation. In combination with other ingredients, clove is also applied to the skin as part of a multi-ingredient product used to keep men from reaching orgasm too early (premature ejaculation). In foods and beverages, clove is used as a flavoring. In manufacturing, clove is used in toothpaste, soaps, cosmetics, perfumes, and cigarettes. Clove cigarettes, also called kreteks, generally contain 60% to 80% tobacco and 20% to 40% ground clove. Eugenol, one of the chemicals in clove,

acts like menthol to reduce the harshness of tobacco smoke.

### 1.1 Origin of Clove<sup>[1-7]</sup>

Cloves are the pink flowering bud of a form evergreen tree (*Eugenia aromatica*), which are dried until brown and used for medicinal and spicing purposes. 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. Arabic traders brought the buds to Europe in 4<sup>th</sup> century A.D., and in the seventh and eighth century A.D. Europe, cloves became very popular as a medicinal flower, due to their ability to preserve foods, and mask the smell of poorly-kept foods<sup>[2, 3]</sup>.

### 1.2 Active Constituents of Clove Oil

Approximately, 72-90% of the essential oil extracted from cloves has Eugenol. Other essential oil ingredients of clove oil are,

1. Acetyl eugenol.
2. Beta-caryophyllene and vanillin
3. Crategolic acid, tannins, gallotannic acid, methyl salicylate (painkiller)
4. Flavonoids eugenin, kaempferol, rhamnetin, and eugenitin
5. Triterpenoids like oleanolic acid.
6. The dried buds of cloves contain about 15 - 20 percent of essential oils, and the bulk of this is eugenol. A kilogram of dried buds provides about 150 ml (1/4 of pint) of eugenol.

### 1.3 Health Benefits of Organically Certified Clove<sup>[11, 12]</sup>

Clove is a natural antiviral, antimicrobial, antiseptic, and anti-fungal agent. It also holds aphrodisiac and circulation-stimulating capacities. The oil of cloves has been used in a variety of health conditions including indigestion,

generalized stress, parasitic infestations, cough, toothaches, headache, and blood impurities. In fact, the expert panel German Commission recently approved the use of its essential oil as a topical antiseptic and anesthetic.

**1.4 Clove may play a therapeutic role in the following conditions:**

- **Powerful germicidal properties:** Clove is used extensively in dental care for relieving toothache, sore gums and oral ulcers. Gargling with clove oil can also aid in sore throat conditions and bad breathe [1].
- **Anti-Bacterial:** An effective aid for food poisoning, clove oil effectively kills many forms of bacterial infections from contaminated foods [2].
- **Antiseptic:** Clove oil can be used to reduce infections, wounds, insect bites and stings [1].
- **Anti-fungal:** Clove is also effective in reducing fungal infections such as athlete's foot [1].
- **Skin:** Excellent aid for skin disorders, such as acne.
- **General Stress Reliever:** Clove oil stimulates the circulatory system, clearing the mind and reducing mental exhaustion and fatigue. It has also been used to aid insomnia, memory loss, anxiety and depression.
- **Anti-Inflammatory:** Clove oil clears the respiratory passages, acting as an expectorant for treating many upper-respiratory conditions including colds, eye styes, bronchitis, sinus conditions, cough and asthma.
- **Blood Purifier:** Not only purifies the blood, but also aids in stabilizing blood sugar levels, and may have benefits for diabetic individuals.
- **General Immune System Booster:** Clove's antiviral and cleansing properties purify the body, augmenting our resistance to disease.
- **Premature Ejaculation:** Some research has shown that clove may be useful as a aid for premature ejaculation.
- **Indigestion:** Clove oil offers a powerful action against gas and bloating. It reduces gas

pressure in the stomach, aiding in the proper elimination of food and toxins. It also relieves the discomfort of peptic ulcers. Effective for stomach related conditions including nausea, hiccups, motion sickness and vomiting. (2)

- **Cancer Prevention:** Preliminary studies suggest that clove oil may play a chemopreventive role, particularly in cases of lung, skin and digestive cancers. (5,7)
- **Cardiovascular Health:** The active essential oil in clove, eugenol, has been shown to act as an effective platelet inhibitor, preventing blood clots [4].
- **Prevention from toxic exposure:** Studies show that clove oil can prevent toxicity related to exposure to environmental pollution.

**1.5 Medicinal uses Clove Oil:** Clove oil is produced by a steam distillation process. So you're probably better off buying the oil rather than trying to make it yourself. Clove oil is available almost anywhere .Clove oil is an unusually powerful antioxidant. Antioxidant capacity is measure by ORAC (Oxygen Radical Absorption Capacity). Although the dried buds or powders rank highly among anti-oxidants, clove oil is the monster antioxidant.

**1.6 Biological Sources [7]**

Scientific classification	
Kingdom:	Plantae
Phylum:	Angiosperms
(unranked):	Eudicots
(unranked):	Rosids
Order:	Myrtales
Family:	Myrtaceae
Genus:	<i>Syzygium</i>
Species:	<i>S. aromaticum</i>
Binomial name	
<i>Syzygium aromaticum</i> (L.) Merrill & Perry	

As an essential oil, clove's ORAC rating soars to over 10 million. Most other antioxidants are rated in the tens of thousands to a maximum of a few hundred thousand at best. Producing the oil from clove buds concentrates clove's *eugenol*, the main

active ingredient of clove. Eugenol is an anti-inflammatory. Clove's flavonoids also contribute to the high ORAC level of the essential oil and clove oil is a great anti-fungal. It's even recommended by many who treat Candida. The oil is also useful for direct applications to outer skin fungi, such as ringworm and athlete's foot.

### 1.7 Nutritional/Medicinal Value:

Clove is one of the highest sources of manganese you'll find. Manganese is vital for metabolism, contributes enzymes, promotes bone strength, and also adds to clove's high ORAC antioxidant value. Magnesium, calcium, vitamins C and K also make strong appearances in clove. Clove is high in fiber also. Omega-3 is in abundance in clove as well as many phytonutrients that enhance the immune system. Clove greatly boosts your humoral immunity, which protects your blood and tissues. Clove has anti-viral anti-bacterial properties as well. It has been discovered to help prevent adult onset diabetes by tripling insulin levels.

### 1.8 Health Properties of Cloves [11-16]

Cloves are the dried flower buds of the clove tree, an evergreen tree that grows in tropical climates. While cloves are mostly used for culinary purposes today, the health benefits of cloves have been known for centuries. The Chinese used cloves to get rid of bad breath over 2000 years ago, and it is even said that anyone who had an audience with the Emperor was required to chew on cloves so that their breath was sweet! It was also considered an aphrodisiac in China as well as Persia. Cloves have powerful medicinal properties. They are stimulating and have antibacterial, antiviral, antifungal and antiseptic properties. They are also a natural anesthetic (due to the eugenol oil) which is why they were often used for dental procedures in centuries past and are still used in some cultures to remedy toothache. It is the oil that is derived from the cloves that is so powerful, and this is often used for medicines both topically and internally. This oil contains compound that helps with blood circulation and can stimulate the skin when applied directly to it. Cloves are a great spice to

heal ailments of the digestive system. They are well known for relieving flatulence and can actually help promote good digestion as well as metabolism. They may also help relieve vomiting and diarrhea as well as a host of other digestive disorders. Cloves have been well known as an all-around healing herb and it's not just digestive problems that cloves are reputed to help with. In fact, they are used in tropical Asia to treat conditions such as scabies, cholera, malaria and tuberculosis. As an antispasmodic it can be applied topically to relieve muscle spasms or in a tea to ease coughing. It can also treat skin problems like styes and sores when applied as an ointment. It is said a paste of milk, salt crystals, and cloves can be a great headache remedy. Cloves are believed to have other health benefits that aren't necessarily connected with an immediate illness. For instance, they can make a great mosquito repellent, as well as a moth repellent. Clove studded oranges are often used to repel many kinds of insects in tropical climates. Sucking on cloves may even reduce the craving for alcohol. Today, the health benefits of cloves are not mentioned much in the Western world, but this ancient spice is still a popular herb with Ayurvedic healers who use it in teas and powders both topically and internally. It is even found in the arsenal of aromatherapy practitioners. Although used from centuries in all over the world, clove is a resident of Molucca islands. It has been widely used in the Ayurveda – Indian traditional medicine, and Chinese traditional medicines. In the modern world, it is largely cultivated in Zanzibar, Indonesia, Sri Lanka, India, and Pakistan.

### 1.9 Transnational Uses of Clove [15, 17, 19]

- **Clove:** is very well known as spice as well as herb all over the world. An English name clove, has been derived from the Latin word 'nail' as the shape resembles to small sized nails. It is widely used for medicinal as well as culinary purposes. Cloves are actually the dried flower buds of tree that is member of Myrtaceae family. Clove is an evergreen tree that bears sanguine flowers in



clusters. The medicinal uses of this dried bud are as follows:

- **Cholera:** The intake of cloves is very much effective in the treatment of cholera. Add some four grams of cloves to boiling water. Boil it, till the half water gets evaporated. Drink this water to prevent from severity.
  - **Digestive disorder:** Cloves boost the digestive system of the body as, it regulates the enzyme flows. Intake of this herb reduces the irritation level in intestine and cures indigestion problem. Mix the powdered cloves with teaspoonful of honey, and consume this mixture before going to bed.
  - **Coughs:** Take a clove with rock salt and chew it thoroughly to ease down soreness of throat. It also helps in reliving the inflammation of pharynx. You may even burn a clove and chew it, to get relieved from severe cough. Clove oil when mixed with honey, gives amazing effect of recurring cough.
  - **Teeth troubles:** From ancient era, clove is used in India and china to cure tooth aches. They are highly beneficial in reducing the pain of tooth. Due to its antiseptic properties, it is also guards the tooth from infections. Apply the clove oil which reduces the pain in gums and decayed tooth.
  - **Headaches:** Ground the cloves into powder form and mix it with salt crystals. Add milk to this mixture, it is very effective remedy for headaches.
- Earache:** Boil cloves in sesame oil and pour three to four drops of oil in ear. It will immediately cure earaches. Apart from the medicinal uses, it is used in culinary worldwide. It is main ingredient of the spice in Indian curries and also included in the preparation of curry powder. Clove oil is also used in the production of bath salt, soaps, and perfumes

## 1.10 Natural Herbal Remedies Using Cloves

- Natural herbal remedies using cloves includes: Relieving toothaches, earaches, nausea, hypertension and pain from burns and wounds. Also helps respiratory problems, great air freshener, mosquito repellent, fly deterrent, and ant killer.

## 1.11 Cloves come in 3 different forms

Cloves (myrtaceae) come in 3 different forms, whole, ground and oil. All three forms have the same properties with differing degrees of potency. Oil has the highest potency and is best used diluted with carrier oil like almond oil. Whole cloves are medium potency the oils are still in them and they can be ground in a mortar and pestle for use. Ground cloves are the least potent, most of the oil has already been released.

## 1.12 Medicinal uses and Pharmaceutical Preparations

Western studies have supported the use of cloves and clove oil for dental pain. However, studies to determine its effectiveness for fever reduction, as a mosquito repellent and to prevent premature ejaculation have been inconclusive. Clove may reduce blood sugar levels. Tellimagrandin II is an ellagitannin found in *S. aromaticum* with anti-herpes virus properties. The buds have anti-oxidant properties. Clove oil can be used to anesthetize fish, and prolonged exposure to higher doses (the recommended dose is 400mg/l) is considered a humane means of euthanasia. In addition, Clove oil is used in preparation of some toothpastes, laxative pills and Clovacaine solution which is a local anesthetic and used in oral ulceration and anti-inflammations. Eugenol (or clove oil generally) is mixed with Zinc oxide to be a temporary filling

## 1.13 Using Cloves Medicinally

- **Toothache:** All three forms can be used with differing degrees of results and applied in different ways. Clove oil can be applied with a q-tip, a drop will do, remember it is very potent, you may even want to consider diluting it for this purpose. A whole clove can be crushed

slightly and placed on the gum where the toothache is located, or place a small amount of ground cloves into a piece of coffee filter, wrap, wet and place between gum and lip. Using any of these applications will alleviate the pain, the higher the potency, the quicker the relief. Using clove oil will not only alleviate the pain it will also draw out any infection from an abscess so you won't need antibiotics before seeing the dentist.

- **Earaches:** Clove oil is best used for an earache, dilute with a carrier oil (never water), place on a cotton ball and place just inside the ear canal. The pain will subside quickly and it will help to reduce infection if any is present.
- **Nausea:** Clove tea has a very unique flavor and aroma. The best part of drinking clove tea is the quick relief from nausea and the fresh breath you have afterwards. In fact chewing on a clove from time to time is the best breath mint ever and keeps nausea and heartburn away. However too much tea or chewing on cloves can produce heartburn, especially if done on an empty stomach.
- **Hypertension:** Regularly chewing on cloves for at least six weeks or more can help reduce hypertension. Always be sure to discuss this with your doctor before deciding if it is a right option for you.
- **Burns and Open Wounds:** Apply clove oil directly and immediately to 1<sup>st</sup> and 2<sup>nd</sup> degree burns and minor open wounds and cuts to alleviate pain, reduce possibility of infection and reduce healing time. For minor open wounds and cuts just sprinkling ground cloves will help stop bleeding and reduce pain immediately. I never go anywhere without either a small bottle of ground cloves or clove oil.

#### 1.14 Home Remedies of Cloves [11-16]

- **Respiratory Aid:** Aromatherapy is the best way to use cloves as a respiratory aid. Make clove tea and breathe in the aroma from the hot tea. A pomander as pictured can be hung in various places to have a

continual aroma therapy and improve respiratory problems.

- **Air Freshener:** Cloves have a great aroma and can be used in a variety of ways to remove offensive smells rather than using aerosols or other artificial air fresheners. Make an atomizer in a spray bottle mixing clove oil with water, shake well before each use as oil and water do not stay mixed. A clove pomander is another way, see instructions below for how to make one. After the pomander has lost its effectiveness, the cloves still have more aroma to share, crush slightly and add to a potpourri. Cloves are always a great addition to spicy potpourris or an oil burner.
- **Mosquito Repellent:** Using the same atomizer you freshen the air with, shake and spray lightly on exposed skin.
- **Fly deterrent and ant killer:** The aroma alone from cloves will deter flies whether it is in a potpourri an air freshener or a pomander. A drop of clove oil will kill ants instantly. Mix clove oil, cinnamon oil and water and shake well before each use to kill ants.

#### 1.15 Medicinal Properties and Health Benefits of Cloves [15-19]

- The active principles in the clove are known to have antioxidant, anti-septic, local anesthetic, anti-inflammatory, rubefacient (warming and soothing), carminative and anti-flatulent properties.
- The spice contains many health benefiting essential oils such as eugenol, a phenyl-propanoids class of chemical compound, which gives pleasant, sweet aromatic fragrances to the clove-bud. Eugenol has local anesthetic and antiseptic properties, hence; useful in dental treatment procedures.
- The other important constituents in this spice include: - essential oils: acetyl eugenol, beta-caryophyllene and vanillin, cratogenic acid; tannins: gallic acid,

methyl salicylate (pain-killer); the flavonoids: eugenin, kaempferol, rhamnetin, and eugenitin; triterpenoids: like oleanolic acid, stigmasterol and campesterol; and several sesquiterpenes. The active principles in the clove may increase the motility of the gastrointestinal tract as well as improve the digestion power by increasing gastrointestinal enzyme secretions. Thus, helps

relieve indigestion and constipation problems.

- The spice also contains good amount of minerals like potassium, manganese, iron, selenium and magnesium. Potassium in an important electrolyte of cell and body fluids that helps control heart rate and blood pressure. Manganese is used by the body as a co-factor for the antioxidant enzyme superoxide dismutase.

See the table below for in depth analysis of nutrients:

Cloves (*Syzygium aromaticum*),  
Nutritive Value per 100 g  
(Source: USDA National Nutrient data base)

Principle	Nutrient Value	Percentage of RDA
Energy	47 Kcal	2%
Carbohydrates	10.51 g	8%
Protein	3.27 g	6%
Total Fat	0.15 g	0.5%
Cholesterol	0 mg	0%
Dietary Fiber	5.4 g	14%
<b>Vitamins</b>		
Folates	68 mcg	17%
Niacin	1.046 mg	6.5%
Pantothenic acid	0.338 mg	7%
Pyridoxine	0.116 mg	9%
Riboflavin	0.066 mg	5%
Thiamin	0.072 mg	6%
Vitamin A	13 IU	0.5%
Vitamin C	11.7 mg	20%
Vitamin E	0.19 mg	1%
Vitamin K	14.8 mcg	12%
<b>Electrolytes</b>		
Sodium	94 mg	6%
Potassium	370 mg	8%
<b>Minerals</b>		
Calcium	44 mg	4%
Copper	0.231 mg	27%
Iron	1.28 mg	16%
Magnesium	60 mg	15%
Manganese	0.256 mg	11%
Phosphorus	90 mg	13%
Selenium		
Zinc	0.2 mcg	<0.5%
<b>Phytonutrients</b>		
Carotene-β	8 mcg	--
Cryptoxanthin-β	0 mcg	--
Lutein-zeaxanthin	464 mcg	--

- It contains very good amounts of vitamin A and beta carotene levels. These compounds are known to have antioxidant properties. Vitamin A is also required by the body for maintaining healthy mucus membranes and skin and is also essential for vision. Consumption of natural foods rich in flavonoids helps to protect body from lung and oral cavity cancers.
- This spice is a good source of vitamin-K, vitamin-B<sub>6</sub> (pyridoxine), thiamin (vitamin B<sub>1</sub>), vitamin-C and riboflavin. Consumption of foods rich in vitamin C helps body develop resistance against infectious agents and scavenge harmful oxygen free radicals.

#### 1.16 Medicinal Uses of Cloves [2-19]:

1. Clove oil is an antiseptic in nature and effective against streptococcus and staphylococcus bacteria and therefore it is used in respiratory and digestive diseases.
2. An infusion of cloves is used in nausea, vomiting, flatulence and dyspepsia.
3. Clove oil is popularly used for tooth aches from time immemorial.
4. Cloves are expectorant in nature hence they are used in controlling coughs. If one two cloves are kept in the mouth controls the cough particularly in the nights and promotes sleep.
5. It controls the throat irritation.
6. Because of its antiseptic nature it finds a place in the preparation of mouth washes, tooth pastes and tooth powders.
7. Infusions of cloves is used for controlling of Cholera and Asthma
8. Along with honey clove powder is used for controlling vomiting.
9. Because of its anesthetic nature it is used in ear ache.
10. Clove oil is used in headaches.
11. Clove oil is a good remedy for treating styes on the eye (Inflammation of the eye lids in the form of small growths).

#### 1.17 Culinary Uses

In order to keep the fragrance and flavor intact, clove is generally grounded just before preparing dishes and added at the last moment in the cooking recipes. This is because prolonged cooking results in evaporation of its essential oils.

- This popular spice has been used in preparation of many popular dishes in Asian and Chinese cuisine since ancient times. Along with other spices like pepper, turmeric, ginger etc. It is being used in marinating chicken, fish and meats.
- Some Indian vegetarian and chicken curries and rice dishes (biryani) contain cloves and in the Middle East it is used in meat and rice dishes.
- They are also been used in the preparation of soups, barbecue sauces, pickling and as main ingredient in variety of curry powders.

#### 1.18 Specific Health Benefits of Cloves

Cloves have analgesic properties that can be used for treatment of various dental problems like tooth aches. They also boost memory and blood circulation, and are beneficial for the heart, liver and stomach.

Cloves can effectively cure many digestive problems like stomach ulcers, flatulence and dyspepsia, since they stimulate your body's enzymes and boost digestion.

Because of the antiseptic and germicidal benefits of cloves, they help fight infections like cold, flu, bronchitis, arthritic pain and athlete's foot.

#### 1.19 Anti-Inflammatory Benefits of Cloves

Chemical analysis shows that cloves have 36 different ingredients, the most important being an essential oil called eugenol. Cloves also contain a variety of flavonoids which contribute to clove's anti-inflammatory (and antioxidant) properties.

Aromatherapists often use clove oil to treat the symptoms of rheumatism and arthritis. The aromatic clove oil, when inhaled, can help relieve certain respiratory conditions like coughs, colds, asthma, bronchitis and sinusitis.



Eugenol and other components of clove combine to make clove a mild anaesthetic as well as an anti-bacterial agent. For these reasons, you'll find clove oil in some over-the-counter sore throat sprays and mouth washes.

### 1.20 Analgesic Benefits of Cloves

The analgesic property of clove oil can be used for treatment of various dental problems like tooth aches. A cotton ball soaked in the clove oil can work wonders on the aching tooth. Clove oil is also used to relieve pain from sore gums and improves overall dental health.

### 1.21 Antiseptic Benefits of Cloves

Clove and clove oil are antiseptic in nature and work as an effective remedy for some common problems such as cuts, fungal infections, burns, wounds, athlete's foot and bruises. The antiseptic properties of clove oil are why it's a common ingredient in various dental creams, toothpastes, mouth wash, and throat sprays.

Clove and clove oil boost the immune system by purifying the blood and help to fight against various diseases.

### 1.22 Digestive Health Benefits of Cloves

Cloves can effectively cure many digestive problems. Cloves are known to have medicinal qualities to cure flatulence, loose stools, indigestion and nausea. Cloves are useful in relieving the symptoms of diarrhea, gastric irritability and vomiting.

### 1.23 Get the Benefits of Cloves Every Day

Cloves have so many benefits, ideally you'd want to have some every day. However, as with any spice, you may find it impractical to include cloves in your meal plans that often. There's an easy way to accomplish this — by making yourself a smoothie every day and adding some cloves to your recipe. Fresh smoothies make for some of the most nutritious, delicious and easy-to-make meals you could imagine. They're a great way to get more of those "good for you" antioxidant-rich foods (that you may not get enough of) into your diet. I personally use small amounts of cloves and cinnamon in my smoothie

recipes to help give them more antioxidant power. Using small amounts of super foods such as cloves gives my smoothie the antioxidant power of 6-9 servings of dark green leafy vegetables — and it taste nothing like them! To learn more about the art of making smoothies, skip on over to my page on How to Make a Smoothie the Healthy Way and learn all my tricks for making delicious and nutritious smoothies! To learn more about cloves and ways to use this beneficial spice,

### 1.24. Selection and storage

The spice is available year around in the markets. Good quality cloves release sweet fragrance when squeezed between the thumb and index fingers. In the store, buy whole buds instead of powder since, oftentimes it may contain adulterated spicy powders. The cloves should be wholesome with stem and sepals, and compact.

Whole cloves should be stored in cool dark place, in airtight containers for many months and can be milled using "hand mill" as and when required. Ground/powder clove should be stored in the refrigerator in airtight containers and should be used as early as possible since it loses its flavor quickly.

### 1.25 Side-Effects of Clove<sup>[16]</sup>

- Clove oil is very powerful oil and at times has unpleasant taste.
- If large quantities are accidentally ingested, it may cause irritation to the skin of some individuals and can easily irritate the mucus membranes.
- If it is used directly as clove oil, the concentration should be below 1%.
- It should be avoided during pregnancy.

## 2. Conclusion

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. It is also used to alleviate inflammation from arthritis and flu symptoms. Topical uses of clove include application directly to the gum or skin to alleviate dental pain and to reduce inflammation

of the mouth and throat areas. Clove is also used in combination with other supplements for treating premature ejaculation and cancer.

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