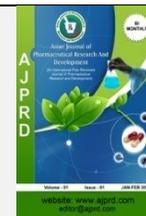


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Review Article

Review on Herbal Drugs used in Dental Care Management

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ABSTRACT

Nowadays teeth related disease is common among all ages of people and children. Ten out of five children are suffering from tooth decay due to the consumption of more sweets, chocolates, and eatable items by children. Various eatables affect the teeth and decay the teeth rapidly, so we need to understand the phenomena of diseases which is responsible for infection in teeth. Main objective of this review project is to collect the information and role of various herbal drugs used in Dental Care and for its management. Also represent systematic plant profile which not only useful in treatment of the teeth but also give the phytochemicals and therapeutic information of plants used in the management of teeth diseases.

Keywords: Dental care, Herbal drugs, Teeth, Phytochemicals, Anticaries etc.

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INTRODUCTION

Since ancient times, humans have explored treatments for ailments in nature; more recently, herbal medicines have acquired appeal in dietary supplements, energy drinks, multivitamins, massage, and weight reduction product¹⁹. These use have broadened the field of herbal medicine and also increased its credibility. These applications have widened the scope of herbal treatment while also boosting its validity. Herbal compounds are now being used in dentistry to treat tooth discomfort, gum inflammation, and mouth sores, among other things¹⁷. Dental illnesses is one of the most common disorders in the world. Dental health is linked to a higher

standard of living that goes beyond the functions of the craniofacial complex³⁴. Plant-based antiseptics, antibacterial, antimicrobial, antifungal, antioxidant, antiviral, and analgesic compounds are all popular in dentistry. Dental health is one of the domains of medicine where bacterial and fungal diseases are the most common. Widely spread diseases like dental caries, periodontal disease, and endodontic lesions are caused by well-known bacterial and fungal pathogens: *Streptococcus mutans*, *Streptococcus salivarius*, *Streptococcus sanguinis*, *Porphyromonas gingivalis*, *Prevotella intermedia*, *Actinobacillus actinomycetem comitans*, *Enterococcus faecalis*, *Candida albicans*, etc. Preventive medicine focuses mostly

on oral hygiene to reduce bacterial biofilm. Chlorhexidine, hyaluronic acid, and fluorides are the most often utilised active chemicals in mouth rinses and toothpastes. Chemical products, while helpful, may have some clinical drawbacks, such as tooth discolouration, taste changes, mouth dryness, supragingival calculus accumulation, and oral mucosal ulcers³⁰.

Tooth Anatomy

The anatomy of the mouth is formed throughout the early stages of embryonic development. The mouth is necessary not just for communication and as a food receptacle, but it also plays a vital role in digestion. The oral cavity, which is made up of the hard and soft palates; the mucosa, or tissues lining the upper and lower sections of the mouth as well as the tissues lining the inner cheeks; the gingiva, or gums surrounding the teeth; and the tongue, uvula, tonsils, and salivary gland openings are all part of the normal anatomy of the mouth.

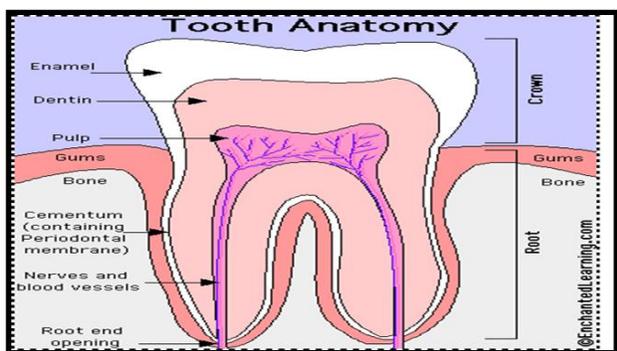


Figure 1: Tooth Anatomy⁴⁰

1. **Primary Teeth:** The majority of babies are born with no visible teeth, as the teeth are developing beneath the gums. Between the ages of 6 months and a year, a baby's primary teeth (also known as baby teeth or first teeth) erupt (poke through the gums).

2. Teeth that are permanent:

Primary teeth fall out, and 32 permanent teeth replace them (also called the adult teeth). This occurs between the ages of 6 and 14, when a youngster is about to enter puberty. The roots of the primary tooth it is replacing disintegrate as a permanent tooth grows beneath the gums and in the jawbone. The primary tooth then becomes loose and eventually falls out. The space will be filled by the permanent tooth.

3. **Wisdom teeth** (also known as third molars) are molars that typically emerge between the ages of 17 and 21.

Disorders of the mouth

While some conditions, such as cleft palate, cannot be avoided, there are methods to reduce the risk of oral cancer as well as more prevalent issues including gingivitis, pericoronitis (inflammation of the tissue surrounding the wisdom teeth), and serious periodontal disease, which can result in tooth loss. An increased risk of heart disease has been linked to poor dental hygiene. Gingivitis and periodontal disease can be exacerbated by other medical disorders, such as diabetes. It's vital to check your mouth, tongue, and gums for any changes when you brush and floss every day, and to report any concerns to your doctor or dentist. Early detection and treatment of any issues will considerably improve your chances of avoiding complications and getting the best possible result from treatment options. Even a nasty habit like teeth grinding, which may appear to be a minor inconvenience, can become a serious problem: Constant wear on your teeth can cause tooth surface deterioration, jaw pain, and even damaged or chipped teeth. Your dentist can provide you with advice and options to help you keep your teeth healthy for the rest of your life. Some suitable dosage form like niosomes, phytosomes, cubosomes, transdermal needles also better opportunities to increase the bioavailability and other parameter like solubility, permeability of natural plants constituents for treatment of teeth diseases.^{48, 49, 50,51,52,53}

HERBAL DRUGS USED IN DENTISTRY^{4,6,7,8,10,11,13,18,21,23,24,27,28,29,33,35,37,47}

Table 1: Botanical description of Clove, Tulsi, Garlic, Cinnamon^{1,2,3,4,5,9,10,16,17,25}

Botanical Description	Clove	Tulsi	Garlic	Cinnamon
Kingdom	Plantae	Plantae	Plantae	Plantae
Clade	Tracheophytes	Tracheophytes	Tracheophytes	Tracheophytes
Clade	Angiosperms	Angiosperms	Angiosperms	Angiosperms
Order	Myrtales	Myrtales	Asparagales	Laurales
Family	Myrtaceae	Myrtaceae	Amaryllidaceae	Lauraceae
Genus	<i>Syzygium</i>	<i>Syzygium</i>	<i>Allium</i>	<i>Cinnamomum</i>
Species	<i>S. aromaticum</i>	<i>S. aromaticum</i>	<i>A. sativum</i>	<i>C. verum</i>
Binomial name	<i>Syzygium aromaticum</i>	<i>Syzygium aromaticum</i>	<i>Allium sativum</i>	<i>Cinnamomum verum</i>
Synonyms	<i>Caryophyllus aromaticus</i> L.; <i>Eugenia aromatica</i> (L.) Baill. <i>Eugenia caryophyllata</i> Thunb. <i>Eugenia caryophyllus</i> (Spreng.)	<i>Caryophyllus aromaticus</i> L.; <i>Eugenia aromatica</i> (L.) Baill. <i>Eugenia caryophyllata</i> Thunb. <i>Eugenia caryophyllus</i> (Spreng.)	<i>Allium</i> , Lasan	<i>Camphorinacinnamomum</i> (L.) Farw.; <i>Cinnamomum alexei</i> Kosterm.; <i>Cinnamomum aromaticum</i> J.Graham; <i>Cinnamomum barthii</i> Lukman.

CLOVE

Clove is a spice obtained from the dried flower bud of the clove tree, *Eugenia caryophyllata* Thunb. (*Syzygium aromaticum*, *Eugenia aromatum*) belonging to family **Myrtaceae**. Dental medications have been made

from clove oil, dried flower buds, leaves, and stem of the clove tree^{4,7,10,14}.

Components of chemicals: Clove spices produce three essential oils: clove bud oil, clove stem oil, and clove leaf

oil. Clove oil's main constituents include eugenol, β -caryophyllene, eugenol acetate and in lesser amounts, benzyl alcohol, chavicol, acetyl salicylate and humulenes. Clove essential oil isolated by hydro-distillation using gas chromatography-mass spectrometry (GC-MS) analysis.

TULSI^{20,23,36,38}

Ocimum sanctum Linn (Tulsi) as an odoriferous herb. It belongs to the family **Labiatae**. "Tulsi" in Sanskrit means "the incomparable one" hence called as the queen of herbs. The herb helps in the treatment of various oral disorders².

Chemical constituents: Fresh leaves and stem of *Ocimum sanctum* extract yielded some phenolic compounds (antioxidants) such as cirsilineol, circimaritin, isothymusin, apigenin and rosameric acid, and appreciable quantities of eugenol. The leaves of *Ocimum sanctum* contain 0.7% volatile oil comprising about 71% eugenol and 20% methyl eugenol. The oil also consists of carvacrol and sesquiterpene hydrocarbon caryophyllene. Two flavonoids orientin and andvicenin from aqueous leaf extract of *Ocimum sanctum* have been isolated³².

GARLIC

Garlic (*Allium sativum* L.) belonging to family **Liliaceae** use to improve dental health and to promote oral hygiene.

Chemical constituents: Alliin, methiin, and S-allylcysteine are the primary compounds found in garlic. Garlic's sulphur components are converted into distinct organosulfur compounds when it is broken or crushed. Garlic enzymes convert alliin to allicin, which possesses antibacterial properties³¹.

CINNAMON

Cinnamon (*Cinnamomum verum* or *Cinnamomum zeylanicum*) belonging to the family-**Lauraceae** is the herb which is used in mouth rinse and toothpaste. Essential oils and extracts have been isolated from the different parts of cinnamon, such as the leaves, bark, fruits, root bark, flowers, and buds.

Chemical constituents: The main components of cinnamon essential oils and extracts are cinnamaldehyde, eugenol, phenol, and linalool. Cinnamon bark essential oils has a higher cinnamaldehyde content (65–80%) and a low eugenol content (5–10%). The extract from leaves is rich in eugenol (10–95%). Roots are rich in camphor. The leaf extracts may also have a high cinnamaldehyde content.

Table 2 botanical description of Bloodroot, German Chamomile, Myrrh, Red thyme^{9,10,11,13,35}

Botanical Description	Bloodroot	German Chamomile	Myrrh	Red Thyme
Kingdom	Plantae	Plantae	Plantae	Plantae
Clade	Tracheophytes	Tracheophytes	Tracheophytes	Tracheophytes
Clade	Angiosperms	Angiosperms	Angiosperms	Angiosperms
Order	Ranunculales	Asterales	Sapindales	Lamiales
Family	Papaveraceae	Asteraceae	Burseraceae	Lamiaceae
Genus	<i>Sanguinaria</i>	<i>Matricaria</i>	<i>Commiphora</i>	<i>Thymus</i>
Species	<i>S. Canadensis</i>	<i>M. chamomilla</i>	<i>C. myrrha</i>	<i>T. serpyllum</i>
Binomial name	<i>Sanguinaria Canadensis</i> L.	<i>Matricariachamomilla</i> L.	<i>Commiphoramyrtha</i>	<i>Thymus serpyllum</i> L.
Synonyms	<i>Bloodwort</i> , <i>Coon Root</i> , <i>Indian Red Paint</i> , <i>Red Puccoon</i> , <i>Red Root</i> , <i>Sang – Dragon</i>	<i>Chamomilla chamomilla</i> (L.) Rydb.; <i>Chamomilla recutita</i> (L.) Rauschert; <i>Matricariarecutita</i> L.; <i>Matricariasuaveolens</i> L. etc	<i>Chamomilla chamomilla</i> (L.) Rydb.; <i>Chamomilla recutita</i> (L.) Rauschert; <i>Matricariarecutita</i> L.; <i>Matricariasuaveolens</i> L. etc	<i>Thymus vulgaris</i>

BLOODROOT^{22,23, 27, 28,33,37}

Bloodroot (*Sanguinaria Canadensis*) is a herbaceous flowering plant belonging to family **Papaveraceae**.

Chemical constituents: Bloodroot contains several alkaloids, primarily in the rhizome; the major alkaloids include sanguinarine, chelerythrine, chelirubine, sanguirubine, chelilutine, the opium alkaloid protopine, and sanguilutine. The rhizomes contain approximately 3-7% total alkaloid.

GERMAN CHAMOMILE

German chamomile (*Matricariarecutita*) is a daisy-like flower belonging to family Asteraceae used in dental diseases.⁸

Chemical constituents: The flowers of chamomile contain 1–2% volatile oils. Other active constituents include the chamazulene, bisabolol, flavonoids, apigenin, luteolin, and quercetin.

Pharmacological Activities

Gingivitis and periodontal disease: Essential oil of chamomile is used for gingivitis and periodontal disease as a mouth wash.

Oral ulcer: Topical use of chamomile ointment was also found to successfully treat mild stasis ulcers bed sores in elderly bedridden patients.⁹

MYRRH

Myrrh (*Commiphoramolmol*) is a gum-resin extracted from thorny tree species belonging to family **Burseraceae**.

Chemical constituents: The three main constituents of myrrh are the resin, the gum, and the volatile oil.

RED THYME

Thyme is flowering plant. Thyme (*Thymus vulgaris*) belongs to the family **Lamiaceae**. Red thyme is utilized in oral health.⁹

Chemical constituents: It contain volatile oils,phenols, borneol, linalool, alcohols, rosmarinic acid, saponins, thymol and carvacol, glycosides, flavonoids, p-cymene, tannins, and terpenoids.

Table 3: Botanical Description of Jasmine, Sesame, German Chamomile, Pomegranate^{9,10,11,13,35}

Botanical Description	Jasmine	Sesame	German Chamomile	Pomegranate
Kingdom	Plantae	Plantae	Plantae	Plantae
Clade	Tracheophytes	Tracheophytes	Tracheophytes	Tracheophytes
Clade	Angiosperms	Angiosperms	Angiosperms	Angiosperms
Order	Lamiales	Lamiales	Asterales	Myrtales
Family	Oleaceae	Pedaliaceae	Asteraceae	Lythraceae
Genus	<i>Jasminum</i>	<i>Sesamum</i>	<i>Matricaria</i>	<i>Punica</i>
Species	<i>J. grandiflorum</i>	<i>S. indicum</i>	<i>M. chamomilla</i>	<i>P. granatum</i>
Binomial name	<i>Jasminum grandiflorum</i> L.	<i>Sesamum indicum</i> L.	<i>Matricariachamomilla</i> L.	<i>Punica granatum</i> L.
Synonyms	<i>Jati, Sauanasyayani, Chetika, Hridyagandha, Malati, Rajaputrika</i>	<i>Dysosmonamoenum</i> Raf.; <i>Sesamum africanum</i> Tod.; <i>Sesamum occidentale</i> Heer& Regel; <i>Sesamum oleiferum</i> Sm.; <i>Sesamum orientale</i> L.; <i>Volkameriaorientalis</i> (L.) Kuntze	<i>Chamomilla chamomilla</i> (L.) Rydb.; <i>Chamomilla recutita</i> (L.) Rauschert; <i>Matricariarecutita</i> L.; <i>Matricariasuaveolens</i> L. etc	<i>Punica florida</i> Salisb.; <i>Punica grandiflora</i> hort. ex Steud.; <i>Punica nana</i> L.; <i>Punica spinosa</i> Lam

JASMINE

Jasmine (*Jasminum grandiflorum*) is a shrub belongs to family **Oleaceae**. Leaves of jasmine are effective in dental diseases.

Chemical constituents: The major chemical components found were benzyl acetate (23.7%), benzyl benzoate (20.7%), phytol (10.9%), linalool (8.2%), isophytol (5.5%), geranyl linalool (3.0%), methyl linoleate (2.8%) and eugenol (2.5%).

SESAME

The sesame plant (*Sesamum indicum*) of the **Pedaliaceae** family has been considered a gift of nature to mankind for its nutritional qualities and desirable health effects.

Chemical constituents: sesame seeds is an important source of sesame oil which contain fatty acids (linoleic acid, oleic acid, palmitic acid and stearic acid), and antioxidants (sesamol, sesamol and sesamin).

POMEGRANATE

Pomegranate (*Punica granatum*) is a fruit containing plant belongs to the family **Lythraceae**.

Chemical constituents: Pomegranate fruits, seeds, skin, and leaves contain a variety of beneficial compounds. Tannins, flavonoids, ellagitannins, and proanthocyanidin chemicals, as well as minerals like calcium, magnesium, phosphorus, potassium, and salt, are abundant in pomegranate peel. Pomegranate fruit arils are high in organic acids, sugars, minerals, vitamins, and antioxidant polyphenols, as well as other phenolic compounds. Polyphenols, tannins, and anthocyanins, as well as vitamin C, vitamin E, and lipoic acid, are all found in its juice.

KANTKARI

Kantkari (*Solanum xanthocarpum*) is also called as “Indian nightshade” or “Yellow fruit nightshade” belongs to family **Solanaceae**.

Chemical constituents: Kantkari consist of solanocarpine, carpesterol, solanocarpidine, potassium nitrate, fatty acid, diosgenin, sitosterol, isochlorogenic acid, neochronogenic acid, chronogenic acid, caffeic acid, solasodine, solasonine, solamargine, quercetin, apigenin, histamine, and acetylcholine.

Table 4: Botanical Description of Kantkari, Miswak, Lemongrass, Eucalyptus^{6,7,8,9,11,18,24,27}

Botanical Description	Kantkari	Miswak	Lemongrass	Eucalyptus
Kingdom	Plantae	Plantae	Plantae	Plantae
Clade	Tracheophytes	Tracheophytes	Tracheophytes	Tracheophytes
Clade	Angiosperms	Angiosperms	Angiosperms	Angiosperms
Order	Solanales	Brassicales	Poales	Myrtales
Family	Solanaceae	Salvadoraceae	Poaceae	Myrtaceae
Genus	<i>Solanum</i>	<i>Salvadora</i>	<i>Cymbopogon</i>	<i>Eucalyptus</i> L'Hér.
Species	<i>S. virginianum</i>	<i>S. persica</i>	<i>C. schoenanthus</i>	<i>E. obliqua</i>
Binomial name	<i>Solanum virginianum</i> L.	<i>Salvadorapersica</i> L.	<i>Cymbopogon schoenanthus</i> (L.) Spreng.	<i>Eucalyptus obliqua</i> L'Hér. 1789
Synonyms	<i>Solanum xanthocarpum</i>	<i>Salvadora persica</i>	<i>Andropogon</i> sect. <i>Cymbopogon</i> (Spreng.) Steud. <i>Andropogon</i> subg. <i>Cymbopogon</i> (Spreng.) Nees; <i>Gymnanthelia</i> Andersson	<i>Stringy Bark Tree, Blue gum, Blue Gum Tree, Eucalyptus</i>

MISWAK

The Miswak is obtained from tee of *Salvadora persica* belongs to the family *Salvadoraceae*. The roots, twigs, and stems of this plant have been utilized for oral hygiene and small *S. persica* sticks have been utilized as toothpicks.

Chemical constituents: Miswak contains b-sitosterol and m-anisic acid ; chlorides, salvadoura, and gypsum; organic compounds, such as pyrrolidine, pyrrole, and piperidine derivatives; glycosides, such as salvoside and salvadoraside; and flavonoids, including kaempferol, quercetin, quercetin rutin, and a quercetin glucoside.

LEMONGRASS

Lemon grass, is also called *citronella grass* is a member of the *Poaceae family* and belongs to the genus *Cymbopogon*.

Chemical Constituents: myrcene, limonene, linalool, citronellal , geranyl acetate, nerol, geraniol,

neral, geraniol, citronella. Citronella oil is another name for lemon grass oil. The high citral content of this grass' oil gives it a pronounced lemon scent, which is a distinguishing feature. Lemongrass' effect in promoting oral health was investigated in a study. Lemongrass oil is helpful for periodontitis prevention and treatment. It's also been suggested for use in mouthwash or toothpaste to prevent the production of plaque.²⁴

EUCALYPTUS

Eucalyptus or Eucalypts also is a genus of over seven hundred species of flowering trees, shrubs or mallees in the **myrtle family** belonging to the family **Myrtaceae**.

Chemical constituents: The main component is 1,8-cineole followed by cryptone, α -pinene, *p*-cymene, α -terpineol, trans-pinocarveol, phellandral, cuminal, globulol, limonene, aromadendrene, spathulenol, and terpinene-4-ol.

Table 5: Botanical Description of Neem, Turmeric, Aloe Vera, Apamarg ^{23,31,32,34,36,38}

Botanical Description	Neem	Turmeric	Aleo vera	Apamarg
Kingdom	Plantae	Plantae	Plantae	Plantae
Clade	Tracheophytes	Tracheophytes	Tracheophytes	Tracheophytes
Clade	Angiosperms	Angiosperms	Angiosperms	Angiosperms
Order	Sapindales	Zingiberales	Asparagales	Caryophyllales
Family	Meliaceae	Zingiberaceae	Asphodelaceae	Amaranthaceae
Genus	<i>Azadirachta</i>	<i>Curcuma</i>	Aloe	<i>Achyranthes</i>
Species	<i>A. indica</i>	<i>C. longa</i>	<i>A. Vera</i>	<i>A. aspera</i>
Binomial name	<i>Azadirachta indica</i> A. Juss., 1830	<i>Curcuma longa</i> L.	<i>Aloe vera</i> (L.) Burm.f.	<i>Achyranthes aspera</i>
Synonyms	<i>Nira, Nimb, Veppa, Limba, Nimba, Vembu</i>	<i>Curcuma domestica</i> Valetton	<i>Aloe barbadensis</i> Mill.; <i>Aloe barbadensis</i> var. <i>chinensis</i> Haw.; <i>Aloe chinensis</i> (Haw.) Baker; <i>Aloe elongata</i> Murray; <i>Aloe flava</i> Pers.; <i>Aloe indica</i> Royle	<i>Chircita, Prickly chaff flower, Apamarg, devil's horsewhip</i>

NEEM

Azadirachta indica tree belongs to the family- **Meliaceae**.

Chemical constituents: Neem consists of genin, sodium nimbin, salannin, nimbin, azadirachtin, nimbidiol, quercetin and nimbidin. Neem leaves contain fiber, carbohydrates and at least 10 amino acid proteins, calcium, carotenoids, fluoride.¹⁴

TURMERIC

Curcuma longa Linn or Turmeric is also known as **Haridra** which belongs to the family **zingiberaceae**.

Chemical Constituents: Turmeric include volatile oil (6%) composed of a number of monoterpenes and sesquiterpenes, including zingiberene, curcumin, α - and β -turmerone among others. The colouring principles (5%) are curcuminoids, 50-60% of which are a mixture of curcumin,

mono des methoxy curcumin and bis des methoxy curcumin¹⁴.

ALEOVERA

Aloe barbadensis Miller or Aleo is also known as **Kumari**, Belonging to the family-**Asphodelaceae**. Aloe leaves contain a clear gel and green part of the leaf that surrounds the gel is used to produce juice or dried substance.

Chemical constituents: Aloins and barbadoins as main chemical constituents. The chemical constituents in Aloe vera are Anthraquinones, Saccharides, Prostaglandins and fatty acids. Others: Enzymes, amino acids, vitamins, minerals. Other compounds: Cholesterol, triglycerides, steroids, uric acid, lignins, betasitosterol, gibberellin, salicylic acid.

TEA TREE OIL

Tea tree oil (*Melaleuca alternifolia*) is derived from the leaves of tea tree belonging to family-**Myrtaceae**.

Chemical constituents: It containing terpinen-4-ol, γ -terpinene, and α -terpinene as about 70% to 90% of whole oil, while p-cymene, terpinolene, α -terpineol, and α -pinene collectively account for some 15% of the oil..

TRIPHALA

Triphala named as Tri (Three) Phala (Fruit). It is a dried powder of three assorted fruits namely, Indian gooseberry (*Emblica officinalis*) also known as amalaki or amla, black myrobalan (*Terminalia chebula*) also known as haritaki or harada, and belleric myrobalan (*Terminalia bellirica*) also known as bibhitaki or bahera. Triphala is prepared by powdering the myrobalans that is haritaki, bibhitaki and amalaki in the ratio of 1:1:1 or 1:2:4 respectively.³⁵ (Ummey Salma et al., 2020)

Chemical constituents: The phytochemicals of Triphala are tannins, quinones, flavonoids and flavonols, gallic acid and vitamin C. The antimicrobial action of tannins,

quinones, flavones, flavonoids, and flavonols. Hepatoprotective and antioxidant activity occurs in gallic acids. In the healing process, vitamin C and bioflavonoids serve as a catalyst.¹⁵

PEPPERMINT

Peppermint or Mentha piperita is a hybrid mint, a cross between water mint and spearmint which belongs to the family **Lamiaceae**.

Chemical constituents: Peppermint leaves yield approximately 0.1-1.0% volatile oil that is composed primarily of menthol (29-48%) and menthone (20-31%).

Apamarg

Achyranthes aspera belongs to the family **Amaranthaceae**.

Chemical constituents: It contains hentriacontane, betaine, beta-sitorol, achyranthes saponins A, achyranthes saponins B, achyranthes saponins C, achyranthes saponins D.²⁰

Images of Different Plant used in Dental Care^{4,7,10,11,13,18,20,22,23,27,28,33,37,38}



Figure No. 02: Clove (*Eugenia caryophyllata*)



Figure No. 03: Tulsi (*Ocimum sanctum*)



Figure No. 04: Garlic (*Allium sativum*)



Figure No. 05: Cinnamon (*Cinnamomum verum*)



Figure No. 06: Bloodroot (*Sanguinaria Canadensis*)



Figure No. 07: German Chamomile (*Matricaria recutita*)



Figure No. 08: Myrrh (*Commiphoramyrrrha*)



Figure No. 09: Red Thyme (*Thymus vulgaris*)



Figure No. 10: Jasmine (*Jasminum grandiflorum*)



Figure No. 11: Sesame (*Sesamum indicum*)



Figure No. 12: Pomegranate (*Punica granatum*)



Figure No. 13: Kantkari (*Solanum xanthocarpum*)



Figure No. 14: Miswak (*Salvadora persica*)



Figure No. 15: Lemongrass (*Cymbopogon schoenanthus*)



Figure No. 16: Eucalyptus (*Eucalyptus obliqua*)



Figure No. 17: Neem (*Azadirachta indica*)

Figure No. 18: Turmeric (*Curcuma longa*)Figure No. 19: Aloe vera (*Aloe barbadensis*)Figure No. 20: Tea Tree Oil (*Melaleuca alternifolia*)

Figure No. 21: Triphala

Figure No. 22: Peppermint (*Mentha piperita*)Figure No. 23: Apamarg (*Achyranthes aspera*)

CONCLUSION

It can be concluded that using herbal dentifrice as a supplement to daily dental care can help people with gingivitis decrease plaque and inflammation. The main benefits of adopting herbal medication are its accessibility, cost-effectiveness, extended duration, and minimal toxicity. If used in greater doses, the drawbacks of utilizing herbal medicine such as clove oil are designed to cause major difficulties such as pharyngitis, vomiting, cytotoxicity, kidney failures, liver damage, convulsions, difficulty breathing, and others. As a result, preclinical and clinical research are required to determine biocompatibility and safety before herbal medication may be definitively prescribed for oral use. Many people does not know about the herbs which are used in dental health. This article provides the information about the herbal medicinal plants that can be used dental health.

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