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## MEDICINAL PLANTS WITH TRADITIONAL AND FOLKLORE USE IN DENTAL HEALTHCARE

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### ABSTRACT

Dental diseases like caries is one of the globally affecting diseases of the oral cavity that is still prevalent in today's era despite knowledge of most advanced sciences and technologies in dental practice. There has been constant effort to focus on correction of this disease entity, but today our horizon has broadened the approach and goal remains to prevent the disease process rather than to correct it. Medicinal plants have been documented for prevention and cure of many systemic diseases since ancient times. As per our traditional medicinal system, a range of plants are used by the traditional medical practitioners and herbalists for improving dental and oral health. With advancements in science, it is now scientifically documented that these plants have potential curative action for oral diseases such as dental caries. The usage of these herbs and their extracts in clinical practice can miraculously benefit the overall dental health of the patient. This review summarizes the therapeutic impacts of different kinds of medicinal plants frequently utilized in traditional and folklore medicines for maintaining oral health by preventing or managing tooth decay. The study would aid the researchers in exploring natural compounds of these plants for their potential use in treatment of dental problems.

**Keywords: Dental healthcare, traditional plants, folklore medicine, oral health**

## INTRODUCTION

Ethnomedicine is one of the tools that deal with the direct relationship of plants and men to prevent and cure ailments. There is a long and well-known history of use of plants to improve dental health and promote oral hygiene [1]. The oral cavity is an indispensable house of many microbiomes, that are not only very important in maintaining normal environment in the buccal region but disruption of this resident flora leads to various diseases like dental caries or periodontitis [2]. Microorganisms like *Streptococcus mutans* and many others increase the chances for pathogenicity leading to range of oral diseases varying from common disease like dental caries and periodontal diseases (**Figure 1**) to complex endodontic infections, dento-alveolar abscess, dry socket, osteomyelitis, facial space infections, candidiasis, and gingivitis [3].

The conventional treatment offered usually includes analgesics and antibiotics but due to rapid increase in the rate of infection, antibiotics resistance and its side effects traditional medicines are gaining popularity over these drugs. There are many natural ways to treat dental diseases like inflammation, infection and dental caries. One such way is 'going herbal'. Traditionally used medicinal plants have been found to cure a number of dental diseases including bacterial diseases owing to a rich source of antimicrobial agent with

the knowledge of curative properties of medicinal plants against oral microorganisms. Plants produce slow recovery but their therapeutic effect is incredible [4, 5]. Hence, the purpose of this article is to put all herbs used as folklore medicine for dental care at a single platform to enable the scientists to explore and formulate new drug for dental disorders.

## PLANTS USED FOR THE MANAGEMENT OF DENTAL AND ORAL PROBLEMS:

### MESWAK:

Meswak (*Salvadora persica*), belonging to Salvadoraceae family, is an evergreen shrub with a short trunk, glabrous green leaves and bark. This plant native to India, Saudi Arabia and Egypt and used as a natural toothbrush since ancient times by the communities in these places [7]. Its chemical constituents had been investigated from time to time in last three decades and has made this plant a choice as tooth powder and tooth cleaner. It is proven that meswak exhibits significant antimicrobial activity against both aerobic as well as anerobic bacteria. The resin present in the plants is responsible to form a coating over the enamel of the teeth, thus protecting them from external entities that harm them. Meswak also contains lauric, myristic and palmitic acids, polysaccharides and lignin derivatives of phenols and furans along with sterols. The chlorine present as chloride

probably acts as a dentifrice for removing tartar and other stains from the teeth. Meswak extract chewing gum promotes periodontal health by decreasing plaque, bleeding and gingival indices [8]. Its mechanical action in plaque removal is attributed to the substantial amount of silica

detected in *S. persica* ash. It may also play a potential role in caries prevention and raising the plaque pH after acidic challenge. Thus, Meswak is highly preferred and recommended as a good hygiene tool for oral and dental health care [9, 10].

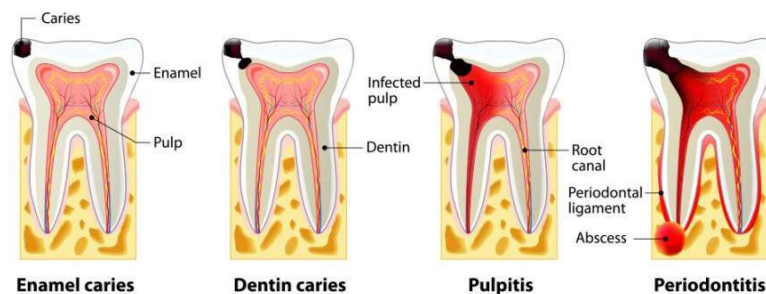


Figure 1: Common dental disorders [6]

**PROPOLIS:** It consists of a complex mixture of various types of resins and beeswaxes that are produced by the honeybees (family Apidae, order Hymenoptera) from leaves, buds and flowers of different plants [11]. It is used as traditional remedy and now inculcated in modern medicine also due to its promising effects in promotion of oral and dental health. Several chemical classes present in propolis are flavonoids, phenolics and diverse aromatic compounds. These compounds provide this plant with antibacterial activity against Gram-positive bacteria (especially *Staphylococcus aureus*) and Gram-negative bacteria (especially *Salmonella* spp.) along with antioxidant and anti-inflammatory effects. As an Anti-inflammatory agent, propolis has been

shown to inhibit prostaglandin synthesis, activate the thymus gland and aid the immune system by promoting phagocytic activities and augment healing effect on the epithelial tissues [12, 13]. Propolis is a useful addition to the list of oral health remedies as it inhibits water insoluble glucan synthesis and affect the acid production and the acid tolerance of microorganisms [14]. It is used as an intracanal irrigant, in dental hypersensitivity as well as in treatment of periodontitis. It is evident that propolis has been used in dentistry for various purposes and has a promising role in future medicines in dentistry. However, few people are allergic to propolis and may experience skin rashes. Its use is also contraindicated in asthmatic patients [11, 13].

**CLOVE:** Clove (*Eugenia caryophyllus*) is a flower-bud belonging to Myrtaceae family and is cultivated mainly in India, Indonesia and Malasiya. It contains eugenol as the main active constituent present in its volatile oil. Many forms of love are used like grounded clove, whole clove, clove oil, leaf oil and stem oil [15]. Its main use in dentistry is to relieve dental pain. Clove oil is very beneficial for oral health because of its antimicrobial activity against oral pathogens (*S. aureus*, *L. monocytogenes* and *Aspergillus*). Synergistic effects of clove oil along with other oils like coriander oil has shown higher level of inhibition of Gram-negative bacteria (*Streptococcus mutans*). Although clove is best medicine for dental therapy, larger dose of clove is sometimes hazardous at it may cause oral ulcers, bleeding and sore throat [16].

**NEEM:** It consists of stem bark and dried leaves of *Azadirachta indica* belonging to the family Meliaceae. It generally grows in tropical and semi-tropical regions throughout India and also in Islands located in Iran. Nimbidin, Nimbin, nimbolide, azadirachtin, gallic acid, epicatechin, catechin and margolonone are main active constituent found in neem. Neem dental care products are very popular and contain its leaves and bark extracts. Neem leaf is rich in antioxidant property and helps to boost immune response in gums and tissues of the mouth [17, 18]. Neem offers good remedies

for curing mouth ulcer, tooth decay and even acts as a pain reliever in toothache as a natural antibacterial agent. Ethanolic extract of neem leaves, sticks and bark are well-proven to possess significant antibacterial activity [19, 20]. Neem stick has been used since time immemorial as a natural toothbrush as per traditional practices. These dried chewing sticks of neem are documented to display maximum antibacterial activity against *S. mutans* and hence it helps in reducing dental plaque and gingival inflammation. Neem is also reported to have anti-candidal, anti-cariogenic and anti-plaque activities. Neem is highly useful as a root-canal irrigant. Neem extracts have been widely used in both traditional and conventional times to manufacture toothpaste and mouthwash in oral care dentistry [21].

**TULSI:** Tulsi (*Ocimum sanctum*) is a sacred herb belonging to Labiatae family. Tulsi leaves are quite effective in treating common oral infections. Few leaves when chewed help in maintaining oral hygiene. The herb is useful in teeth disorders owing to its volatile oil content consisting of Eugenol, beta-caryophyllene and other antibacterial terpenes. These constituents which are naturally present in Tulsi are considered as FDA approved food additives [22]. The leaves, dried in sun and powdered, are used in folklore practices of India for brushing teeth. It is also mixed with mustard

oil to make a paste and thereafter used as a toothpaste. It is found to have profound effects for maintaining dental health counteracting bad breath and for massaging gums in pyorrhea and other gum disorders. The anti-inflammatory and anti-infectious properties of Tulsi make it a powerful treatment for gum disease and oral ulcers. It modulates both humoral and cell-mediated immune responses and these effects are possibly mediated by GABAminergic pathways. The essential oil and seed extract act by inhibition of both COX and LOX which are major culprits in inflammatory disorders [23].

**SALMALI:** Salmali also known as Silk-cotton tree consists of the mature stem bark of *Bombax ceiba* (family Bombacaceae). It is widely found in temperate Asia, Tropical Asia, Africa and Australia. In India, it can be found at altitudes of sea level to 1500 m elevation. Stem bark is reported to contain flavonoids, lupeol, glycosides, sterols and terpenoids. It is traditionally used to treat toothache and Mouth ulcers [24, 25]. The aqueous extract of the bark is reported to possess antibacterial activity against Gram-positive bacteria (*Staphylococcus aureus* and *Bacillus subtilis*) and some Gram-negative bacteria also [25].

**CASTOR OIL:** Castor i.e. *Ricinus communis* (Euphorbiaceae family) is a medicinal wild plant which grows to height of about 6 m and is distributed in various

parts of India and Arabian Peninsula [26]. *R. communis* and its phytochemicals have been found to have antimicrobial activity against various bacteria such as *Staphylococcus aureus* and *Streptococcus mutans*. The seed oil is widely used in oral hygiene issues. It acts as a complete cleanser solution and cause inhibition of biofilm formation due to presence of sodium ricinolate in its seed oil, which damages microbial cell wall leading to cell death by loss of cytoplasmic components. It also displays anti-ulcer properties, thus making it highly useful in oral health [27].

**CATECHU:** *Acacia catechu* a moderate sized tree, found mostly in dry parts of India belongs to Leguminosae family and Mimosaceae sub-family. It is usually known as Black catechu and Katha. The leaves, bark, heartwood and popularly aqueous extract of heartwood are widely used in India since long time for various pharmacological effects, mainly in the treatment of oral and gastric ulcers and passive diarrhea, either alone or in combination with cinnamon or opium. The main chemical constituent of *A. catechu* are condensed tannins mainly catechin, epicatechin, epigallocatechin, epicatechin gallate and phloroglucin. It is also reported to contain taxifolin that aids the tannins in antifungal, antibacterial, anti-inflammatory and antioxidant activities of its extract [28]. A dentifrice herbal tooth powder

composition comprising of 91% of *A. catechu* powder was developed to remove tarter, plaque and stain and to cleans and polish tooth surface without any abrasion action. On clinical study, this tooth powder reported 87-95%, 70-72% and 80-95% reductions in plaque, gingivitis and dental calculus respectively, in about 15 days of treatment. *A. catechu* heartwood extract was found to be an effective astringent and antibacterial agent [29]. Studies conducted on ethanolic and aqueous heartwood extracts of *A. catechu* reveal its efficacy against dental caries causing microbes and organisms associated with endodontic infections like *Streptococcus mutans*, *Streptococcus salivarius*, *Lactobacillus acidophilus* and *Enterococcus faecalis* [28, 30]. *S. mutans* and *L. acidophilus* are potent initiators for dental caries worldwide, hence the heartwood extract has been shown to be highly active against these oral pathogens and thus is highly recommended to be applied in dental practices, in the field of periodontics, to treat dental caries, gingivitis, mouth sores, as well as to treat *E. faecalis* infestation which is found in infected root canal possibly causing failure in root canal treatment [31].

**WALNUT:** Walnut (scientifically called as *Juglans regia*) is the most widespread nut-tree in the world and it belongs to Juglandaceae family. It is a rich source of folic acid, ascorbic acid, phenolic

compounds like gallic acid and regiolone, flavonoids along with terpenoids, alkaloids and steroidal compounds [32]. The aqueous extracts of walnut possess the bactericidal activity against Gram positive bacteria of *Streptococcus* spp., Gram-negative bacteria like *Pseudomonas aeruginosa* and pathogenic yeasts too. The extract has shown either synergistic or additive effect when tested with a broad range of antibacterial drugs. *J. regia* bark increases the pH of saliva and its antibiotic actions are attributed to the presence of caffeic acid and quercetin [33]. It is usually incorporated into hygiene products for the treatment and prevention of plaque and gingivitis. Reports have shown that it has anti-plaque activity due to the presence of enzyme peroxide, lipase and amylase which are responsible for plaque inhibition in the teeth. However, some literatures have reported contact allergy, irritant reactions and skin hyper pigmentation on oral used of *J. regia* as, but it a very rare event in humans [33, 34].

**PEPPERMINT:** The most commonly used medication for dental care is *Mentha piperita*, a medicinally important plant that belongs to Labiatae family and is commonly known as Peppermint. It is used in oral hygiene products like toothpastes and mouthwashes to remove dental plaque and give cooling effect. It is also used in making oral dentifrices and chewing gums as it provides freshness in breath and keep away

bad breath [35]. The aqueous extract of peppermint herb is reported to inhibit the initiation and promotion of oral dysplastic lesions and hence used to treat inflammation of the oral mucosa [36]. It possesses antibacterial effect against cariogenic bacteria in the oral cavity namely *Streptococcus mutans*, *Lactobacillus acidophilus*, *Actinomyces viscosus* and *Nocardia spp.* The essential oil of *M. piperita* has specifically strong antibacterial activity against *S. mutans* and *Lactobacilli* [37]. Both peppermint leaves and its essential oil are used for making mouth rinses and gels that prevent the growth of periodontal bacteria. Due to its antimicrobial activity against oral microorganisms, it can be used as an alternative medicine and as an adjunct to the conventional therapy. Menthol, the major active constituent is now-a-days used instead of peppermint herb in most of the oral and dental care products as an anti-plaque and anti-gingivitis agent [38].

**CINNAMON:** *Cinnamomum zeylanicum* and *Cinnamomum cassia*, the eternal tree of tropical regions, belongs to Lauraceae family. It is one of the most important traditional species used daily by people all over the world as a natural source of antimicrobial agent. It primarily contains essential oils having cinnamaldehyde, cinnamic acid and cinnamates [39]. Antimicrobial effects of cinnamon oil are

scientifically proven on different bacteria like *Staphylococcus aureus*, fungi like *Aspergillus flavus* and yeast species like *Candida lipolytica*. When given together with clove oil, cinnamon oil shows synergistic effect and its activity is enhanced to broad spectrum [40].

**BABUL:** *Acacia nilotica* (Family Mimosaceae), indigenously known as a Babul or Kikar, is a medium-sized tree and is broadly scattered in tropical and sub-tropical countries. This plant contains diverse of phytochemical groups including alkaloids, volatile oils and phenolics (phlobatannin, gallic acid, catechin and epigallocatechin-7-gallate) [41]. Different parts of babul tree such as leaves, root, bark, flowers, fruits, seeds and gum obtained from the bark are being used as folk medicine especially in Gujarat. Main traditional use of babul is strengthening the gums and teeth and reduce plaque and also reduce inflammation in gum diseases. It has potential antioxidant activity that helps in maintaining healthy gums. The tender branches are used as brush which strengthens the teeth and heals dental infections. Babul, when combined with neem, shows significant improvement in gingivitis, dental stains, oral microbial counts and plaque [42].

**BAKUL:** *Mimusops elengi* (commonly known as Bakul) is an Ayurvedic drug belonging to Sapotaceae family. It is one the

important medicinal plants in Ayurveda since each and every part of the plant is used for curing many of the human disease especially dental problems [43]. Twigs of the plant are chewed to clean the teeth and serve the function of a dentrifice. Powder of dry flowers are also useful for cleaning the teeth, while unripe fruits and seeds are used for to fix loose teeth by strengthening the gums. In Ayurveda, *M. elengi* has been reported to be useful for arresting bleeding in the gum related to several gum diseases. Hot decoction of dried bark and fruits are used as an astringent and applied externally to the teeth and gums. This extract is also given orally to cure disease of gums and teeth. The bark and seed coat are also used for strengthening of the gums and hence are preferred as an important ingredient in herbal tooth powder. *M. elengi* bark chloroform extract has shown prominent antibacterial activity in dental disorders. Herbal mouth rinse derived from aqueous extract of Bakul bark have also been found to be a potent plaque inhibitor and show anti-inflammatory actions against gingivitis [44].

**BANYAN TREE:** *Ficus bengalensis* i.e. Banyan tree (Family, Moraceae) is mostly found in and around Chennai, Tamil Nadu, Gujarat and other parts of India. The aerial roots contain flavonoids, sterols, saponins, tannin, carbohydrates, amino acids and proteins. The roots are prescribed by traditional practitioners to treat tooth decay,

plaques and improve oral hygiene and to strengthen the gum and teeth. Methanol and Chloroform extracts of aerial roots have been reported to possess antibacterial activity against *Streptococcus mutans* and *Actinomyces viscosus*, the important cariogenic bacteria that adhere and colonize the tooth surface to form dental plaque. Hence, banyan roots are proven to be useful in treatment of dental root caries [45, 46].

**STINGING NETTLE:** *Urtica dioica* (Family Urticaceae), is a perennial plant which is commonly known as Stinging nettle. It is widely distributed throughout the temperate and tropical areas around the world. It is an excellent source of nutrients and phytochemicals that are critical to enamel integrity and oral hygiene. The commonly known phytochemicals in *U. dioica* herb are flavonoids, tannins, volatile compounds and sterols. The antimicrobial activity of stinging nettle methanolic extract has also been reported against various Gram-positive and Gram-negative bacteria that affect oral health such as *Streptococcus pyogenes*, *S. aureus*, *S. epidermidis* and *Enterococcus faecalis* [47, 48]. A flavonoid patuletin isolated from plant extract has also showed significant activity against *S. aureus*, *S. faecalis*, *E. coli* and *C. albicans* [49].

There are several other medicinal plants specifically that are used for oral and dental healthcare. The information of these plants is listed in **Table 1** [50-56].

Table 1: List of Other Medicinal Plants Having Potential Utility for Dental Healthcare

| S. No. | Biological source (Common name)                 | Family           | Uses                             | Part used                  |
|--------|---|------------------|----------------------------------|----------------------------|
| 1.     | <i>Abuta grandifolia</i> (Abota)                | Menispermaceae   | Toothache                        | Leaves, bark, stems, roots |
| 2.     | <i>Acalypha indica</i> (Indian copperleaf)      | Euphorbiaceae    | Toothache                        | Whole plant                |
| 3.     | <i>Achyranthes aspera</i> (Devil's horsewhip)   | Amaranthaceae    | Toothache                        | Leaves, roots              |
| 4.     | <i>Adansonia digitata</i> (Baobab)              | Bombacaceae      | Toothache                        | Bark                       |
| 5.     | <i>Allium sativum</i> (Ajo)                     | Liliaceae        | Toothache                        | Bulb                       |
| 6.     | <i>Aloe spp.</i> (Aloe)                         | Liliaceae        | Gingivitis, plaque and toothache | Leaves                     |
| 7.     | <i>Annona senegalensis</i> (Wild custard apple) | Annonaceae       | Toothache                        | Bark                       |
| 8.     | <i>Anacardiun occidentlae</i> (Cashew tree)     | Anacardiaceae    | Toothache, Sore gum              | Whole plant                |
| 9.     | <i>Aristolochia guentheri</i> (Zaragosa)        | Aristolacaceae   | Toothache                        | Stem                       |
| 10.    | <i>Argemone Mexicana</i> (Mexican poppy)        | Papaveraceae     | Toothache and caries             | Seeds                      |
| 11.    | <i>Bridelia ferruginea</i> (Kizni)              | Euphorbiaceae    | Mouth ulcers                     | Whole plant                |
| 12.    | <i>Cajanus cajan</i> (Thuvarai)                 | Fabaceae         | Gingivitis                       | Leaves, stem, seeds        |
| 13.    | <i>Calotropis gigantea</i> (Akon)               | Asclepidaceae    | Toothache                        | Roots                      |
| 14.    | <i>Capparis spinosa</i> (Caper bush)            | Capparaceae      | Toothache                        | Root bark                  |
| 15.    | <i>Cassia occidentalis</i> (Fedegoso)           | Leguminosae      | Toothache                        | Leaves                     |
| 16.    | <i>Cinnamomum camphora</i> (Camphor tree)       | Lauraceae        | Toothache, Gingivitis            | Leaves, branches           |
| 17.    | <i>Curcuma longa</i> (Turmeric)                 | Zingiberaceae    | Toothache, Gingivitis            | Rhizomes                   |
| 18.    | <i>Cleome chelidonii</i> (Spider flower plant)  | Cleomaceae       | Gingivitis                       | Whole plant                |
| 19.    | <i>Clitoria ternatea</i> (Butterfly pea)        | Fabeaceae        | Toothache                        | Roots                      |
| 20.    | <i>Cornus florida</i> (Dogwood tree)            | Cornaceae        | Dentrifice                       | Stem                       |
| 21.    | <i>Croton menthodorus</i> (Chala)               | Euphorbiaceae    | Toothache                        | Seeds, leaves              |
| 22.    | <i>Datura stramonium</i> (Dhatura)              | Solanaceae       | Toothache                        | Roots                      |
| 23.    | <i>Eruca sativa</i> (Rocket)                    | Cruciferae       | Toothache                        | Leaves                     |
| 24.    | <i>Eucalyptus globulus</i> (Nilgiri)            | Myrtaceae        | Gum bleeding                     | Whole plant                |
| 25.    | <i>Euclea spp.</i> (Guarri tree)                | Ebenaceae        | Toothache                        | Bark, Leaves               |
| 26.    | <i>Fagonia cretica</i> (Cretan prickly clover)  | Zygophyllaceae   | Toothache                        | Whole plant                |
| 27.    | <i>Ferula assafoetida</i> (Hing)                | Apiaceae         | Dental caries                    | Gum resin                  |
| 28.    | <i>Ficus bengalensis</i> (Indian fig)           | Moraceae         | Toothache                        | Plant juice                |
| 29.    | <i>Flacourtia flavescens</i> (Niger plum)       | Flacourtiaceae   | Toothache                        | Root                       |
| 30.    | <i>Garcinia cola</i> (Bitter kola)              | Guttiferae       | Dentrifice                       | Root                       |
| 31.    | <i>Jasminum officinale</i> (Jasmine)            | Oleaceae         | Mouth rashes                     | Flower                     |
| 32.    | <i>Jatropha curcas</i> (Arandi)                 | Euphorbiaceae    | Pyorrhoea                        | Fruit                      |
| 33.    | <i>Justicia adhatoda</i> (Malabar Nut)          | Acanthaceae      | Pyorrhoea                        | Leaves                     |
| 34.    | <i>Lycopersicon esculentum</i> (Tomato)         | Solanaceae       | Mouth ulcers                     | Fruit                      |
| 35.    | <i>Lophira alata</i> (Bongossi)                 | Ochnaceae        | Toothache                        | Bark                       |
| 36.    | <i>Mangifera indica</i> (Mango)                 | Anacardiaceae    | Sore gum                         | Whole plant                |
| 37.    | <i>Micromeria biflora</i> (English lavender)    | Labiatae         | Toothache                        | Root                       |
| 38.    | <i>Milicia excelsa</i> (African-teak)           | Moraceae         | Toothache                        | Bark                       |
| 39.    | <i>Olea ferruginea</i> (Wild olive)             | Oleaceae         | Toothache                        | Fruits                     |
| 40.    | <i>Origanum vulgare</i> (Oregano)               | Labiatae         | Toothache                        | Whole plant oil            |
| 41.    | <i>Phylla dulcis</i> (Aztec Sweet Herb)         | Verbenaceae      | Tooth decay                      | Leaves                     |
| 42.    | <i>Polyalthia suaveolens</i> (Otounga)          | Annonaceae       | Toothache                        | Fruits, roots, leaves      |
| 43.    | <i>Punica granatum</i> (Pomegranate)            | Puniaceae        | Mouth sores                      | Fruit rind                 |
| 44.    | <i>Salvia officinalis</i> (Sage)                | Lamiaceae        | Sore gums                        | Whole plant                |
| 45.    | <i>Sanguinaria canadensis</i> (Blood root)      | Papaveraceae     | Loosened Tooth                   | Whole plant                |
| 46.    | <i>Scoparia dulcis</i> (Licorice weed)          | Scrophulariaceae | Toothache                        | Leaves                     |
| 47.    | <i>Solanum incanum</i> (Thorn Apple)            | Solanaceae       | Toothache                        | Root                       |
| 48.    | <i>Spathodia campanulate</i> (African tulip)    | Bignoniaceae     | Toothache                        | Bark                       |
| 49.    | <i>Spilanthes acmella</i> (Toothache Plant)     | Asteraceae       | Toothache                        | Whole palnt                |
| 50.    | <i>Xanthium spinosum</i> (Spiny cocklebur)      | Asteraceae       | Toothache                        | Fruits, leaves, roots      |
| 51.    | <i>Zanthoxylum alatum</i> (Timur)               | Rutaceae         | Dentrifice                       | Twigs                      |
| 52.    | <i>Ziziphus mauritiana</i> (Ber)                | Rhamnaceae       | Dental caries                    | Root                       |

**CONCLUSION:**

Many medicinal plants used in traditional and folklore medicines show great potential for prevention and treatment of problems related to oral cavity, especially dental and gum-related diseases. These plants are rich in bioactive phytochemicals mainly volatile oils and phenolics that possess antiseptic, antioxidant, analgesic, anti-inflammatory activities and antimicrobial activity against oral pathogens. This article gives an insight into such medicinal plants that can be used as main ingredient in oral and dental healthcare products. This review would also help the researchers to explore these medicinal plants for further clinical research.

**CONFLICTS OF INTEREST:**

Authors declare no conflict of interest.

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