

A Review on Evaluation Herbal Mouthwash

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ABSTRACT:

Herbal mouthwash has major advantage over the chemically prepared mouthwash due to their non-irritating, non-staining properties which do not content alcohol. Medicinal plant or herbs are considered to have rich source of ingredients which can be used in drug development. The prepared mouthwash was further evaluated for its physicochemical properties and antimicrobial activity. Various herbal product and their extract such as Neem, Turmeric, clove, peppermint, green tea ,lemon grass oil, Ajwain ,Guava leaves Basil, Oil pulling therapy Pomegranate . Medicinal plants play a vital role in curing disease due to their anti-bacterial, anti-microbial, anti-fungal activity against human pathogen through decades. This review is an attempt to outline such natural substances can be used as a effective mouthwashes. The present study aimed to formulate polyhedral mouthwashes that have antibacterial properties.

Key Words: Mouthwash,. Natural product, oral disease

I. INTRODUCTION:^[1,2]

The Romans included a secret ingredient in their mouthwash: human urine. They imported urine from Portuguese people because they thought it had more strength. Mouthwashes are liquids with anti- inflammatory, antimicrobial, and analgesic properties. Mouthwash is a remedy that is frequently used for its antiseptic, deodorizing, and refreshing qualities as well as for plaque control. It must include ingredients like glycerin, artificial sweeteners, surface-active agents, flavourings , and colors. The mouth washes are concentrated aqueous anti-bacterial solution that are used against oral microbes to counter oral infection, cleansing, to get rid of bad breath refreshing, anti-septic .The mouthwash plays a prominent role in the oral hygiene of an individual , It helps to relieve symptoms of inflamed gums gingivitis. And also it reliably used to destruct the pathogenic germs. The mouth washes are used by most of the dental

patients to overcome sour mouth (xerostomia), ulcerated throat and sensitive teeth. Dentists always use mouthwash as an antimicrobial agent before oral surgery of the patients, because they help to sterilize the surface of the inflamed gums and teeth, Thereby the contamination of any other microorganism can be avoided. The importance of mouth and teeth cleanliness has been recognized from the earliest days of civilization to the 21st century^[3]

Herbal Mouthwashes are in high demand, because they act on oral pathogens and relieve the pain instantly and are also less side-effective. Chemical mouthwashes have hydrogen peroxide and chlorhexidine as an immediate whitener, sterilizer and pain reliever of teeth, but they tend to produce discoloration of teeth and may produce side effect, meanwhile they are cost effective. One of the most common infectious diseases encountered by many individuals is Dental carries and Periodontal diseases at different stages of their life time^[4]

Types of mouthwash:

Cosmetic mouthwash:

As the name indicates, cosmetic mouthwashes aim to temporarily control the smell of the breath and leave a pleasant taste in the mouth without eliminating germs, as a mouthwash with germ-killing ingredients can do. Therefore their refreshing effect does not last for a extended period.

Fluoride Mouthwash:

Fluoride mouthwash helps rebuild weakened tooth enamel in a process called remineralization, making teeth more resistant to decay and tooth erosion. When you use fluoride mouthwash, you help reverse the early signs of tooth decay and keep your teeth healthy.

Antiseptic mouthwash:

Antiseptic mouthwash helps eliminate the bacteria that cause bad breath because it contains

bacteria-killing substances. Eucalyptus oil is an effective antibacterial agent that is used in some Antiseptic mouthwash products to help kill bacteria and fight against plaque.^[5]

Natural mouthwash:

For people who prefer using non-alcoholic products for whatever reason, a natural mouthwash is the choice for you! Natural mouthwashes offer the same benefits as other mouthwashes, except that they are gentle with a milder taste and are alcohol-free.

Whitening mouthwash:

Dental care has become more than dental and oral health, as having bright white teeth and an attractive smile is a must have too. People have become greatly keen on getting dental care products that have whitening properties. A whitening mouthwash can be the perfect complement to your home teeth whitening program that helps remove stains and brighten dull teeth.^[6]

Use of mouthwash:^[7]

The mouthwash should only be used for short periods of time and should never be the sole means of oral hygiene practice, the condition of their teeth, gingiva and oral mucosa, their risk of oral disease.

It can be used in the following cases:-

- Halitosis
- Mucositis
- Periodontal disease
- Gum disease
- Xerostomia
- To clean septic socket
- Vincent angina
- To control plaque
- To relieve pain
- To effectively deliver fluoride in order to prevent dental carries
- Reduce inflammation.

Benefits of herbal mouthwash: ^[8]

Mouthwash is very important to prevent periodontal disease. There are very few truly herbal mouthwashes on the market. Substances like tea tree oil have been found to naturally fight harmful bacteria. Keeps you healthy and fresh inside. Unlike most over-the-counter cosmetic and therapeutic mouthwashes, natural mouthwashes typically do not contain: Alcohol

1. Sugar

2. Artificial color
3. Artificial sweeteners (saccharine)
4. Stannous fluoride, a processed form of fluoride that stain teeth
5. Cetylpyridinium chloride (CPC), Which also can cause stain.
6. Sodium lauryl sulphate (SLS),
7. Harsh chemical preservatives and dyes.

HERBS USED AS MOUTHWASH

1. Peppermint:



Figure-1: Peppermint

Peppermint incorporates high menthol content, and is usually used as tea and for flavouring dessert, confectionery, chewing gum, and toothpaste. The oil also contains menthone and methyl esters, particularly methyl acetate. It is the oldest and preferred flavor of mint flavoured confectionery. Peppermint could also be used in shampoos and soaps, which give the hair a minty scent and gives a cooling sensation on the skin. Peppermint essential oil is flexible oil: it's analgesic, anti-inflammatory, anti-viral, digestive, anti-septic, an astringent, carminative and anti-spasmodic. Peppermint essential oil is used to treat migraine, bronchitis, sinusitis, indigestion, nausea, irritable bowel syndrome, irregular periods and nervous conditions. It is also very useful within the treatment of cold and flu.^[9]

Biological Source: Leaves of the plant *Mentha piperata*, a aromatic herb belongs to family Lamiaceae. **Chemical constituents:** Menthol, Menthone, cineole. Peppermint is the mint that is most often used commercially in mouthwash because of its strong, pure, qualities. Mint is good remedy for gingivitis. Peppermint gives fragrance. Peppermint oil is more effective to reduce cavities. It has healing properties as well as anti-viral and anti-bacterial properties, it is an analgesic.

2. Clove:



Figure-2: Clove

Cloves are used as a carminative to increase acid within the stomach and to spice up peristalsis. Cloves are said to be a natural Anthelmintic. The essential oil is used in Aromatherapy when stimulation and warming are needed, especially for gastrointestinal system problems. Topical application over the stomach or abdomen are said to warm the canal. Clove oil, applied to a cavity during a decayed tooth, also relieves toothache.^[10]

Biological Source:

Clove is derived from the unopened flower buds of the clove tree, an evergreen tree in the Myrtaceae family.

The buds are harvested before they fully bloom and are then dried, turning them into the aromatic spice known as cloves.

Chemical Constitution:

Cloves are rich in essential oils, with eugenol being the primary compound, accounting for about 70-90% of the essential oil content.

Other compounds in cloves include eugenyl acetate, beta-caryophyllene, and various terpenes.

Uses:

1. Culinary: Cloves are widely used as a spice to flavor both sweet and savory dishes. They add a warm, aromatic, and slightly sweet flavor to foods like curries, rice dishes, stews, and baked goods.

2. Medicinal: Cloves have been used in traditional medicine for their potential health benefits. They are known for their analgesic, anti-inflammatory, and antimicrobial properties. They may be used to soothe toothaches, aid in digestion, and address various health issues.

3. Dental Care: Clove oil is used in dental care products due to its analgesic and antiseptic properties. It can help alleviate toothaches and gum pain.

4. Aromatherapy: Clove essential oil is used in aromatherapy for its stimulating and soothing

effects. It can be used in massage oils, diffusers, and as a stress-relief aid.

5. Repellent: Cloves have a strong and distinct aroma, which can act as a natural insect repellent. They are used to deter pests like moths and ants.

6. Preservative: The antimicrobial properties of cloves make them a natural preservative. They are used to extend the shelf life of certain food products.

7. Perfumery: Clove oil is used in the fragrance industry as a component of perfumes and colognes, contributing to their spicy and warm notes.

8. Traditional and Cultural Uses: Cloves have cultural and historical significance in various societies and rituals, symbolizing protection, purification, and prosperity.

3. Neem:



Figure:3 Neem

The leaves, twigs, and seeds of neem have been used in India and South Asia to clean the teeth and fight bacterial and fungal infections. Neem extract gel is appropriate for treating gingivitis and oral infections because it inhibits the formation of plaque and the growth of bacteria.^[11]

Biological Source- The part of plant used are leaves of the plant *Azadirachta indica* belongs to the family Meliaceae.

Chemical constituent- Nimbin, Nimbdin, Nimbinin. It inhibits the formation of plaque and the growth of the bacteria. The leaves, twigs and seeds of neem have been used to clean the teeth and fight bacterial infection. Neem extract is appropriate for treating, gingivitis and oral infections because it inhibits the formation of plaque and growth of bacteria. The leaves, twigs and seeds of neem have been used in India and South Asia for thousands of years to clean the teeth and fight bacterial and fungal infection. Neem extract is appropriate for treating gingivitis and oral infections because it inhibits the formation of plaque

and the growth of Neem has been shown to have significant effects on both gram-positive and gram-negative bacteria and other bacteria that cause a wide array of human and animal diseases including E.coli, streptococcus.

Uses:

1. Medicinal Purposes: Neem is known for its medicinal properties. It's used to treat various ailments, including skin condition, digestive issues, and as an antimicrobial agent

2. Skin Care: Neem is often used in skincare products such as creams, soaps, and lotions due to its antibacterial and antifungal properties. It can help with acne, eczema, and psoriasis.

3. Oral Health: Neem twigs have been traditionally used as a natural toothbrush to maintain oral hygiene. Neem oil is also used in some toothpaste and mouthwash products.

4. Hair Care: Neem oil is used in shampoos and conditioners to promote hair health and treat dandruff.

5. Pest Control: Neem oil is a natural pesticide that can be used in agriculture to protect plants from insects and as a repellent for household pests.

6. Antifungal Agent: Neem oil is effective against various fungal infections and is used in the treatment of conditions like athlete's foot and ringworm.

7. Anti-Inflammatory: Neem has anti-inflammatory properties and can be used topically to reduce inflammation and soothe skin irritations. & Insect Repellent. Neem oil can be applied to the skin as a natural insect repellent to deter mosquitoes and other biting insects.

8. Wound Healing: Neem oil can be used to treat minor cuts and wounds due to its antibacterial properties.

9. Diabetes Management: Some studies suggest that neem may help in managing diabetes by regulating blood sugar levels.

10. Immune System Support: Neem is believed to enhance the immune system and may help the body fight off infections.

11. Digestive Health: Neem is used in traditional medicine to treat digestive disorders like constipation and ulcers.

4. Turmeric:



Figure:4 Turmeric

Turmeric mouthwash (10mg Curcumin extract dissolved in 100 ml of water With a peppermint flavoring agent added was Found to be as effective as a solution made From chlorhexidine gluconate (CHX), the gold Standard compound for plaque build up in Dentistry.

Chemical Constitution:

The active compound in turmeric is curcumin, which gives it its distinctive yellow color and is responsible for many of its medicinal properties.

Turmeric also contains essential oils, such as turmerone and zingiberene, which contribute to its flavor and aroma.

Biological Source:

Turmeric comes from the rhizomes (underground stems) of the *Curcuma longa* plant, which is a member of the ginger family (*Zingiberaceae*).

This plant is native to South Asia and is widely cultivated in India, where it has been used for centuries.

Uses:

1. Culinary: Turmeric is a popular spice in Indian, Southeast Asian, and Middle Eastern cuisines. It is a key ingredient in curry powder and imparts a warm, earthy flavor to dishes. It's used in a wide variety of recipes, including curries, rice dishes, soups, and stews.

2. Medicinal: Turmeric has been used in traditional medicine for its potential health benefits. Curcumin, the active compound, is believed to have anti-inflammatory and antioxidant properties. It has been studied for its potential in managing various health conditions, including arthritis, digestive issues, and skin disorders.

3. Herbal Remedies: Turmeric is used in herbal remedies and supplements. It is available in various forms, including capsules, teas, and extracts, often for its potential anti-inflammatory and antioxidant effects.

4. Food Coloring: Turmeric is used as a natural food coloring agent, particularly in products like mustard, pickles, and various processed foods to achieve a yellow hue.

5. Cosmetics: Turmeric is used in cosmetics and skincare products for its potential skin benefits. It's believed to have properties that can promote healthy skin and reduce skin issues.

6. Traditional and Cultural Uses: Turmeric has cultural and ritual significance in various societies and is used in ceremonies, including weddings and religious rituals. It symbolizes purity and prosperity in some cultures.

7. Textiles: Turmeric has been used historically to dye fabrics, giving them a yellow or gold color. Turmeric is valued for its culinary, medicinal, and cultural significance, with ongoing research into its potential health benefits. Curcumin, the main compound, is the subject of much scientific interest for its various health-related properties.

5. Green Tea:



Figure:5 Green Tea

It can be used as a gargle or Mouthwash to treat dental decay, halitosis, Laryngitis, mouth sores, plaque formation, sore Throat, thrush, and tonsillitis. It effectively Reduces plaque accumulation and is free from Side effects as of chemical mouthwashes. Green tea is derived from the *Camellia sinensis* plant and is known for its numerous health benefits. Its chemical constitution includes: ^{[12],[13]}

1. Catechins: These are the primary bioactive compounds in green tea, including epicatechin, epicatechin gallate, epigallocatechin, and epigallocatechin gallate (EGCG). EGCG is particularly renowned for its antioxidant properties.

2. Caffeine: Green tea contains caffeine, albeit in lower amounts than coffee, which provides a mild stimulant effect.

3. Theanine: An amino acid that has a calming effect and can counteract the stimulating effects of caffeine.

4. Polyphenols: Green tea is rich in various polyphenols, which contribute to its antioxidant and anti-inflammatory properties

5. Vitamins and minerals: Green tea contains small amounts of vitamins (such as vitamin C) and minerals (like potassium and manganese).

Green tea used

1. Antioxidant properties: The catechins in green tea help combat free radicals, potentially reducing oxidative stress and lowering the risk of chronic diseases.

2. Weight management: Some studies suggest that green tea can aid in weight loss and fat reduction.

3. Improved brain function: The combination of caffeine and theanine in green tea can enhance cognitive function and promote alertness.

4. Heart health: Regular consumption of green tea may lower the risk of heart disease by improving cholesterol levels and reducing blood pressure.

5. Cancer prevention: Some research indicates that the antioxidants in green tea may help protect against certain types of cancer

6. Anti-inflammatory effects: Green tea has been studied for its potential in reducing inflammation and related conditions

7. Oral health: Green tea may inhibit the growth of harmful oral bacteria and reduce the risk of dental problems.

8. Skin health: The antioxidants in green tea can help protect the skin from UV damage and may be used in skincare products.

9. Relaxation and stress reduction: Theanine in green tea promotes relaxation and reduces stress. It's important to note that while green tea offers many potential benefits, individual responses may vary, and excessive consumption should be avoided due to its caffeine content.

6. Lemon Grass Oil:



Figure:6 Lemon Grass Oil

The cymbopogon citrus have Anti-bacterial, anti-inflammatory, and also Superoxide scavenging property 11, 12. It also the bacterial load and decreases the Inflammation and also reduces the oxidative Stress of the tissue. The lemon grass oil Mouthwash can be used as an adjunct along With the non surgical therapy. ^[14]

Biological Source:

Lemongrass oil is obtained from the fresh or dried leaves of the lemongrass plant, particularly Cymbopogon citratus, which is a tropical grass native to regions like Southeast Asia and Africa. It is cultivated for its aromatic and culinary uses.

Chemical Constitution:

The main chemical components of lemongrass oil include:

- 1. Citral:** This is the primary chemical compound responsible for the lemony fragrance of lemongrass. It consists of two isomers: geranial and neral.
- 2. Geraniol:** Another significant aromatic compound found in lemongrass oil.
- 3. Limonene:** A common terpene found in many citrus fruits, contributing to the citrusy scent.
- 4. Myrcene:** This terpene is also present in lemongrass oil.

Uses: Lemongrass oil has a range of applications, including:

- 1. Aromatherapy:** Lemongrass oil is used in aromatherapy for its uplifting and invigorating scent, which can help reduce stress and anxiety.

2. Fragrance: It is utilized in perfumes, soaps, and candles for its fresh and citrusy aroma.

3. Culinary: In some cuisines, lemongrass oil is used to add flavor to dishes and beverages, particularly in Southeast Asian cooking.

4. Medicinal: Lemongrass oil has potential health benefits, including anti-inflammatory, antibacterial, and antifungal properties. It's used in traditional medicine for a variety of ailments.

5. Insect Repellent: The oil is used in natural insect repellent products to keep mosquitoes and other insects at bay.

6. Massage and Topical Applications: It is sometimes used in massage oils and skincare products for its refreshing and soothing properties.

7. Tea: Lemongrass leaves are often used to make a fragrant and flavorful herbal tea.

8. Room Freshener: It can be used to deodorize rooms and create a refreshing atmosphere.

7. Ajwain:



Figure:7 Ajwain

Ajwain is used as an antiseptic. It's Used for cleaning wounds and treating skin Infections. Oil of Ajwain is additionally utilized in toothpaste and perfumery. Ajwain Leaves is crushed and applied on infections. Ajwain seeds are utilized in prevention of bad Breath. Thymol from Ajwain seeds is additionally utilized in various mouthwashes. Regularly chewing of Ajwain seeds alongside Fennel seeds prevents bad breath. ^[15]

Biological Source:

Ajwain seeds come from the Ajwain plant, scientifically known as Trachyspermum ammi. This plant belongs to the Apiaceae family and is

native to regions in Asia, particularly India, Iran, and Egypt.

Chemical Constitution:

Ajwain seeds contain a variety of chemical compounds that contribute to their flavor and potential health benefits. Some of the key constituents include:

- 1. Thymol:** Thymol is the primary active compound in ajwain seeds, responsible for their distinctive aroma and flavor. It also has antimicrobial and antioxidant properties.
- 2. Terpinene:** Terpinene is another important aromatic compound found in ajwain seeds, contributing to their unique flavor.
- 3. Phenols:** Besides thymol, ajwain seeds contain other phenolic compounds with potential health benefits.
- 4. Proteins, Fibers, and Fats:** Ajwain seeds also contain proteins, dietary fibers, and a small amount of fats.

Uses: Ajwain seeds are widely used for both culinary and medicinal purposes:

- 1. Culinary Uses:** Ajwain seeds have a strong, pungent, and slightly bitter flavor. They are used as a spice in various dishes, especially in Indian and Middle Eastern cuisines. Ajwain adds depth and a distinctive aroma to curries, bread, lentil dishes, and more.
- 2. Digestive Aid:** Ajwain is known for its digestive properties. It is often consumed after meals as a mouth freshener and to alleviate digestive issues like bloating, gas, and indigestion.
- 3. Medicinal Uses:** Traditionally, ajwain has been used in traditional medicine for various purposes. It is believed to have carminative, anti-inflammatory, and antimicrobial properties. Ajwain water is a common home remedy for relieving colic in infants.
- 4. Respiratory Benefits:** The thymol in ajwain seeds may have respiratory benefits and is sometimes used to ease coughs and asthma symptoms.
- 5. Aromatherapy:** Ajwain oil, extracted from the seeds, is used in aromatherapy and massage for its soothing and therapeutic aroma.
- 6. Dental Care:** Chewing ajwain seeds may help improve oral health by reducing bad breath and promoting overall dental hygiene.

8. Guava Leaves:



Figure:8 Guava Leaves

Chewing fresh guava leaves Also stops bleeding from gums alongside bad Breath. Most mouthwashes contain Antimicrobial substances as antiseptic Ingredients to deal with germs that commonly Cause mouth infections. Phytochemical studies Shows the guava leaves bioactive components Like tannins, tri terpenes, phenols, flavonoids, Essential and stuck oils, saponins, lectins, Carotenoids, etc.

Chemical Constitution:

- 1. Phytochemicals:** Guava leaves contain a variety of phytochemicals, including flavonoids (quercetin, kaempferol), tannins, saponins, and triterpenoids.
- 2. Vitamins and Minerals:** They are a good source of vitamins (especially vitamin C and vitamin A) and minerals (such as potassium, magnesium, and calcium).
- 3. Antioxidants:** Guava leaves are rich in antioxidants, which help protect cells from oxidative damage.

Uses:

- 1. Medicinal Purposes :** Guava leaves are traditionally used in some cultures for medicinal purposes. They are believed to have potential benefits for various health conditions, including diarrhea, dysentery, and stomachaches. The high tannin content in guava leaves is thought to have an astringent effect, which may help in managing diarrhea.
- 2. Antidiabetic Effects:** Some studies suggest that guava leaf extracts can help regulate blood sugar levels and may be beneficial for individuals with diabetes.
- 3. Antioxidant Properties:** The antioxidants in guava leaves can help reduce oxidative stress, which is associated with various chronic diseases.
- 4. Anti-inflammatory Effects:** Guava leaf extracts have shown anti-inflammatory properties

in research, which may be useful in managing inflammatory conditions.

5. Wound Healing: In traditional medicine, guava leaves have been used topically to promote wound healing and alleviate skin conditions.

6. Weight Management: Some studies have explored the potential of guava leaf extracts in supporting weight loss and fat reduction.

9. Basil:



Figure:9 Basil

Tulsi/Basil in Ayurveda having Many medicinal properties and a wide therapeutic Range. The leaves are quite effective for the ulcer And infections in the mouth. The anti-inflammatory And anti-infectious properties of Tulsi make it a Powerful treatment for gum disease. The leaves are Quite effective for the ulcer and infections in the Mouth. It is also useful in pyorrhea and other gum Disorders. The anti-inflammatory and anti-Infectious properties of tulsi make it a powerful Treatment for gum disease. ^[16]

Biological Source:

Tulsi, or Holy Basil, is scientifically known as *Ocimum sanctum* (*Ocimum tenuiflorum* or *Ocimum sanctum*).

It is native to the Indian subcontinent but is now cultivated in many parts of the world.

Chemical Constitution:

Tulsi contains a variety of bioactive compounds, including essential oils, flavonoids, and other phytochemicals.

The primary active compounds in tulsi include eugenol (a phenolic compound), ursolic acid, rosmarinic acid, and various essential oils like camphor, eugenol, and caryophyllene.

Uses:

Holy Basil has a long history of use in traditional medicine and is revered for its medicinal properties in Ayurveda.

Some of the common uses and health benefits of tulsi include:

1. Adaptogen: Tulsi is considered an adaptogen, helping the body adapt to stress and improve resilience.

2. Immune system support: It is believed to enhance the immune system and may help the body fight infections.

3. Anti-inflammatory: Tulsi has anti-inflammatory properties and can be used to reduce inflammation in various conditions.

4. Antioxidant: The phytochemicals in tulsi act as antioxidants, protecting cells from oxidative damage.

5. Respiratory health: Tulsi is used to relieve symptoms of coughs, colds, and respiratory ailments.

6. Digestive health: It can aid in digestion and help relieve stomach issues.

7. Stress reduction: Tulsi is known for its calming effects and can be used to reduce stress and anxiety.

8. Antimicrobial: It has antimicrobial properties and may help combat infections.

9. Skin health: Tulsi extracts and oils can be used topically for various skin conditions.

10. Oil Pulling Therapy



Figure:10 Oil pulling Therapy

Oil pulling or oil Swishing, is a traditional Indian folk remedy That involves swishing oil in the mouth. Approximately one tablespoon of oil (sesame, Sunflower and coconut oils are the most Recommended) for 15–20 minutes on an empty Stomach. Saline or saltwater gargling is also an Age old proven and effective mouthwash, Which is still widely used by almost all people. ^[17]

Biological Source:

The biological source of oil for oil pulling therapy depends on the type of oil chosen. Commonly used oils include:

- 1. Coconut Oil:** Derived from the flesh of coconuts (*Cocos nucifera*).
- 2. Sesame Oil:** Derived from sesame seeds (*Sesamum indicum*).

Chemical Constitution:

The chemical composition of these oils includes a variety of fatty acids, antioxidants, and other bioactive compounds. For instance, coconut oil is rich in medium-chain fatty acids, while sesame oil contains a mix of fatty acids like oleic acid and linoleic acid. These oils also contain vitamin E and various polyphenols.

Uses:

Oil pulling therapy is traditionally used for various purposes, but primarily for oral health. Some of its purported uses include:

- 1. Oral Health:** Oil pulling is believed to help reduce harmful oral bacteria, improve gum health, reduce bad breath, and whiten teeth.
- 2. Detoxification:** Some proponents suggest that oil pulling can aid in the removal of toxins from the body, although scientific evidence for this is limited.
- 3. Overall Wellness:** In Ayurvedic medicine, oil pulling is believed to have broader health benefits, such as promoting general well-being and balancing bodily doshas.

11. Pomegranate (*Punicagranatum*):

Figure:11 Pomegranate

Pomegranate is currently finding important applications in the field of dental health. Pomegranate containing mouthwash may fight Dental plaque and tartar formation by inhibiting the Activities of the microorganisms that cause plaque. It has anti-inflammatory properties that may help Soothe irritated tissues.^[18]

Biological Source:

Pomegranate is the fruit of the *Punica granatum* tree, a deciduous shrub or small tree that is native to regions in the Middle East and North Africa.

The edible part of the pomegranate is the seeds (technically arils), which are enclosed in a juicy, red, and translucent pulp.

Chemical Constitution:

Pomegranate is rich in various bioactive compounds, including:

- 1. Polyphenols :** Pomegranate is particularly high in polyphenols, such as ellagitannins and anthocyanins, which are powerful antioxidants.
- 2. Vitamins :** Pomegranate contains vitamins, especially vitamin C and some B vitamins.
- 3. Minerals:** It provides small amounts of essential minerals like potassium and copper.
- 4. Dietary Fiber :** The seeds are a good source of dietary fiber.
- 5. Punicic Acid :** This is a unique fatty acid found in pomegranate seeds and is believed to have health benefits.

Uses:

Culinary Uses: Pomegranate seeds can be consumed fresh, added to salads, used in cooking and baking, or processed into juice. Pomegranate juice and molasses are common culinary products.

Health Benefits: Pomegranate has gained attention for its potential health benefits, which may include

- 1. Antioxidant Properties:** Pomegranate is rich in antioxidants, which can help combat oxidative stress and reduce the risk of chronic diseases.
- 2. Heart Health:** Some studies suggest that pomegranate may support heart health by reducing blood pressure, improving cholesterol levels, and promoting overall cardiovascular well-being.
- 3. Anti-Inflammatory Effects:** Pomegranate may have anti-inflammatory properties.
- 4. Anti-Cancer Potential:** Some research has explored its potential in cancer prevention and treatment.
- 5. Immune Support:** The vitamin C content in pomegranate can contribute to immune system function.
- 6. Skin Care:** Pomegranate is used in cosmetic products for its potential to promote skin health and rejuvenation

II. CONCLUSION:

A study effort has been made to combine The active constituents of different extracts to

make An effective polyherbal mouthwash formulation Which is free from alcohol. The natural herbs used in current Formulations have been medically proven to prevent Oral health and bad breath problems. For years and Decades these herbs have been known to do wonders ,Which is reflected in numerous studies. And keep you Away from various macawhealth problems. An attempt has been made to outline few commonly available herbs ,plants ,and certain fruits ,which are Easily available from the herbs and can be used in the preparation of herbal mouth rinse .The use of herbs for medicine has Been successfully used in dentistry as antioxidant, Antiseptic, and analgesic which can improve the Immunity and help in the healing of oral infections.

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