Herbal Mouthwashes

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ABSTRACT:

Herbal mouthwashes are mouthwashes which are prepared from natural plant extracts. The use of herbal mouthwash has grown advantage over chemical mouthwashes due to their non-irritant and non-staining properties and it does not contain alcohol. The natural extracts present in these herbal mouthwashes are obtained from various plant leaves, fruits, seeds and various tree oils. They have very minimal or no side effects and they are less harmful. Though chlorhexidine remains the gold standard mouthwash, use of herbal mouthwashes are also being used.

KEY WORDS:

Herbal mouthwash, natural extracts, plaque maintainence.

INTRODUCTION:

Mouthwash is an aqueous solution which is most often used for control of plaque and is a medicated liquid which is held in the mouth and swished by the action of perioral musculature to eliminate the oral pathogens. Herbal medicine is preventive in its approach. The major strength of these natural herbs is that their use has not been reported with any side-effects till date. Apart from this, all herbal mouth rinses do not contain alcohol and/or sugar. The problem of these ingredients is that the microorganisms that cause bad breath and halitosis love to feed on these ingredients, and release by-products that cause halitosis. Thus, by use of herbal mouth rinse, we can avoid these ingredients, which itself is one step forward towards better oral hygiene and better health. These extracts have anti-inflammatory effects and prevent bleeding, which is important in dental treatment. Antiseptics, antibacterial, antimicrobial, antifungal, antioxidant, antiviral, and analgesic agents derived from plants are of widespread interest in dentistry. Though herbal products have helped to control dental plaque
and gingivitis, they have been used for a short time and only as an adjunct to other oral hygiene measures such as brushing and flossing.

Plaque-induced gingivitis is a highly prevalent periodontal disease that is frequently encountered in the daily dental practice. It develops due to accumulation of microbial biofilms on surfaces of teeth, and poor or inadequate oral hygiene is the chief predisposing factor. Treatment strategy aims at prevention and control of plaque accumulation by a variety of methods that improve level of oral hygiene. These include mechanical elimination of dental plaque by tooth brushing, dental floss, tooth cleaning sticks, oral irrigators and/or professional scaling and polishing. However, using merely mechanical methods to control plaque formation may not be effective among all subjects. In such cases, use of antimicrobial mouthwashes in conjunction with mechanical oral hygiene methods is highly recommended. Many popular herbal products have helped to control dental plaque and gingivitis and they have so far been used as adjunct to other oral hygiene measures such as brushing and flossing.

What Is Herbal Mouthwash?

Herbal mouthwashes can be used as an adjunct to various oral hygiene practices like tooth brushing, flossing. It’s proven that they have effective anti-inflammatory, anti-plaque properties and hence can be used in supportive periodontal therapy. It does not contain alcohol, artificial preservatives, flavors or colors. Hence Herbal mouthwashes can be considered an alternative to chemical mouthwashes in sustaining oral hygiene, especially because of the added advantages provided by herbal preparations.

Uses Of Mouthwash:

The use of mouthwashes requires a correct diagnosis of the oral condition and a thorough knowledge of the product. The selection needs to take into consideration factors such as the patient's oral condition, disease risk and the efficacy and safety of the mouthwash and should also consider the patient's ability to perform good oral hygiene practices, the condition of their teeth, gingiva and oral mucosa, their risk of oral disease, and the proven efficacy of the mouthwash and its potential adverse effects.

Mouthwashes should only be used for short periods of time and should never be the sole means of oral hygiene. It can be used in the following cases:

1. Halitosis
2. Mucositis
3. Periodontal Diseases
4. Gum disease
5. Xerostomia
6. To clean septic sockets
7. Vincent’s angina
8. To control plaque
9. To relieve pain
10. To effectively deliver fluoride in order to prevent dental caries
11. Reduce inflammation

Benefits Of Natural Mouthwash:

Using a mouthwash for gum disease prevention is very important. There are few truly herbal mouthwashes available on the market. Substances like tea tree oil have been found to naturally fight bad bacteria. Various Echinacea extracts, gotu kola, mint essential oils and cinnamon help to keep mouths healthy and fresh. Unlike most commercial cosmetic and therapeutic oral rinses, natural mouth rinses typically do not contain:

1. Alcohol
2. Sugar
3. Artificial colors
4. Artificial sweeteners (saccharine)
5. Stannous fluoride, a processed form of fluoride that stain teeth
6. Cetylpyridinium chloride (CPC), which also can cause staining
7. Sodium lauryl sulfate (SLS), a chemical that has been linked to various health problems such as premenstrual syndrome, menopausal symptoms, diminished male fertility and breast cancer.
8. Harsh chemical preservatives and dyes

Types Of Herbal Products

1. NEEM
   Siddiqui was the first to report the isolation of three products, nimbin, nimbidin and nimbinin from its oil. The neem constituent belonging to chemically diverse classes have been divided in to two major sections viz. 1) Isoprenoids and 2) non-isoprenoids. It showed that these products helped in reducing gingivitis and plaque but herbal toothpaste containing neem as a major constituent, maintained reduction of plaque as well as stains. (2)

2. GREEN TEA
   Green tea extract is approximately twice more antioxidant-active than Vitamin C. The cardinal antioxidative ingredient in the green tea extract is green tea catechins (GTC). Green tea polyphenols can abolish halitosis through modification of odorant sulphur components. It also defends healthy cells from malignant transformation and locally could induce apoptosis in oral cancer cells. (2)

3. Sanguinaria canadensis, Bloodroot, is a perennial, herbaceous flowering plant native to eastern North America. The initial therapy is to reduce marginal inflammation to allow residual disease to be assessed and treated. As supragingival plaque control, in conjunction with supragingival and subgingival scaling, is necessary to reduce marginal inflammation, an effective anti-plaque agent may be a beneficial adjunct in early stages of therapy. Sanguinaria, does not seem to produce any side effects and has shown to exhibit antimicrobial activity against plaque microorganisms. Thus, it’s been shown to have an inhibitory effect on new plaque formation both in experimental gingivitis model and as a supplement to normal oral hygiene practices. (2)

4. MESWAK
   Meswak is a chewing stick used by many people in different cultures and in developing countries as a traditional toothbrush. Thus, it was seen that Meswak extracts have both anti-plaque and anti-gingivitis action. Its use resulted in significant reduction in carriage rate of cariogenic bacteria mutans Streptococci (MS) in saliva and reduced gingival bleeding. (3)

5. Berberis vulgaris, aka European barberry or simply Barberry.
   It produces edible but sharply acidic berries. The plant is both poisonous and medicinal. Except for its fruits and seeds, the plant is mildly poisonous. Its most potent agent is berberine, which is also known to have several therapeutic effects. (2)

6. TURMERIC, Turmeric (Curcuma longa)
   The most important chemical components of turmeric are a group of compounds called curcuminoids, which include curcumin (diferuloylmethane), demethoxycurcumin, and bisdemethoxycurcumin. The best studied compound is Curcumin, which comprises 0.3-5.4% of raw turmeric. This caused reduction in oral ulceration, burning sensation, blanching and trismus. (2)

7. ACACIA ARABICA
   Acacia Arabica is a species of Acacia native to Africa, the Middle East and the Indian subcontinent.
The uses of this plant are:

1. Internal use: Useful in diarrhea, dysentery, piles, helminthiasis, bleeding disorders, cough, urinary disorders. Gum is used in dysuria and loss of libido. In premature ejaculation. Powder of raw legume and sugar is found useful.
2. External use: A blood purifier, hemostatic, vasoconstricting and healing property. Its powder is sprinkled on burnt injuries and bleeds.
3. It is useful herbal formulation for chemical plaque control agent and in improvement of plaque and gingival status.

8. **Garcinia Mangostana L.**
   The purple mangosteen, is a tropical evergreen tree believed to have originated in the Sunda Islands and the Moluccas of Indonesia. Mangosteen peel contains xanthonoids, (mangostin), and phytochemicals having antioxidant properties. The herbal mouthwash containing pericarp extract of mangosteen is useful in improvement of plaque index and used as an adjunct in treating oral malodor. \(^{(2)}\)

9. **POMEGRANATE EXTRACT**
   Active ingredient: Ellagic Acid Total Polyphenols. The Pomegranate gel when used as an adjunct with mechanical debridement was efficient in treating gingivitis and reduction in plaque score. \(^{(2)}\)

10. **ALOE VERA**
    Originated in northern Africa. Extracts from A. Vera are widely used in the cosmetics and alternative medicine industries, being marketed as variously having rejuvenating, healing, or soothing properties.

    There was significant reduction of Plaque and Gingivitis due to anti-inflammatory properties, anti-ulcer activity, astringent effect and possibility of reducing scars and enhancing wound healing. Aloe vera is an ideal candidate for Plaque control. \(^{(2)}\)

**HERBAL PRODUCTS AS MOUTHWASH:**

**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. \(^{(1)(3)(4)}\)

**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. \(^{(1)(3)(5)}\)

**Peppermint:**

Peppermint is the mint that is most often used commercially in liqueurs, toothpastes, soaps, and mouthwashes because of its strong, pure qualities. Peppermint essential oil has been used to treat gingivitis, indigestion, headaches, colic, etc. Mint is also a good remedy for gingivitis.

Minty mouthwash: Steep 4 tbsp. of chopped fresh mint leaves in 1 qt. of boiling water. Let cool, and then refrigerate. Once chilled, strain the mixture and keep in a bottle in the refrigerator. \(^{(1)(8)}\)
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 chlorhexidinegluconate (CHX), the gold standard compound for plaque buildup in dentistry.\(^1\)

Guava(Psidiumguajava):

Chewing sticks when used without toothpaste are very efficient, effective, and reliable for cleaning teeth. The teeth of chewing sticks users are usually strong, clean, fresh, and devoid of dental plaques and caries.

A decoction of the root bark is recommended as a mouthwash for swollen gums and decoction of the leaves makes an efficacious gargle for swollen gum and ulceration of the mouth and for bleeding gums.\(^3\)(9)(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.\(^3\)

Pomegranate(Punicagranatum):

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. \(^3\)

Sodium bicarbonate:

A mouthwash can be prepared by dissolving one teaspoon of sodium bicarbonate in a glass of water. It is recommended in patients suffering from xerostomia or erosion due to its ability to increase salivary pH and suppress the growth of aciduric microorganisms such as S. mutans. Sodium bicarbonate can improve taste and neutralizes acids and thus prevent erosion. It is bland and will not irritate the oral mucosa in patients with xerostomia or oral ulcerative disease. \(^3\)

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 reduce plaque accumulation and is free from side effects as of chemical mouthwashes. \(^3\)

**HERBAL PRODUCTS USE IN PERIODONTAL DISEASE:**\(^{11}\)

<table>
<thead>
<tr>
<th>PLANT PRODUCTS</th>
<th>VARIOUS ACTIONS OF THE COMONENTS</th>
<th>ROLE IN THE MANAGEMENT OF PERIODONTAL DISEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUAVA</td>
<td>Antioxidant, anti-inflammatory, antispasmodic, anticancer, antimicrobial, anti-hyperglycemic, analgesic</td>
<td>Antibacterial activity against both Gram-positive and Gram-negative bacteria. Prevent bone resorption.</td>
</tr>
<tr>
<td>NEEM</td>
<td>Astringent, antiseptic, insecticidal, antiviral, and anti-hyperglycemic</td>
<td>Broad range antibacterial activity and helps inplaque growth inhibition</td>
</tr>
<tr>
<td>ALOE VERA</td>
<td>Antibacterial, antioxidant, antiviral and antifungal actions</td>
<td>Local drug delivery system in periodontal pockets. Inhibit periodontopathic bacteria. It also</td>
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</tbody>
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<thead>
<tr>
<th>Herb</th>
<th>Properties</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURCUMIN</td>
<td>Antibacterial, antifungal actions</td>
<td>Acts both as bacteriostatic and bactericidal. Subgingival irrigation reduces bleeding on probing and redness and pocket probing depth</td>
</tr>
<tr>
<td>TULSI</td>
<td>Antibacterial properties, immunomodulatory action</td>
<td>Effective against Gram-positive and Gram-negative Bacteria.</td>
</tr>
<tr>
<td>PINEAPPLE</td>
<td>Fibrinolytic, antiedematous, antithrombotic, and anti-inflammatory, antibacterial</td>
<td>Antibacterial efficacy against all the isolated strains of both aerobic and anaerobic microorganisms.</td>
</tr>
<tr>
<td>GRAPE SEED EXTRACT</td>
<td>Immunomodulator agent, antioxidant, anticarcinogenic, anti-inflammatory effects</td>
<td>Inhibit osteoclast differentiation, reduce osteoclast activity, and stimulate bone formation.</td>
</tr>
<tr>
<td>POMEGRANATE</td>
<td>Anti-inflammatory, antimitogenic, and antifungal activity</td>
<td>Anti-bacterial properties against periodontopathic pathogens and antiplaque effect improves clinical signs of chronic Periodontitis.</td>
</tr>
</tbody>
</table>

**CONCLUSION:**

Hence a valuable insight on the commonly used herbs, plants and even fruits which are used as a mouthwashes. They prove to be cost effective and are also devoid of side effects. The use of herbs for medicine has been successfully used in dentistry as antioxidant, antiseptic, and analgesic. They will improve the immunity and help in the healing of oral infections. Antimicrobial activities of these drugs have been found to be particularly useful for the management of periodontal diseases.

**REFERENCES:**