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A REVIEW: PREPARATION AND EVOLUTION OF HERBAL MOUTHWASH

Srinivas R.Mane, Sanjay K Bais, Sandesh S. Akade
Fabtech College of Pharmacy Sangola- 413307 India
Corresponding author Mail ID: sandeshkhade1414@gmail.com

ABSTRACT:

Several types of microorganisms call the mouth cavity home. While certain kinds of oral bacteria are benign, there are also those that can cause oral plaque, pathetic breath, and mouth diseases. Consequently, maintaining proper dental hygiene is crucial for a healthy mouth and body. Herbs are extremely valued for their effectiveness when compared to chemical products. Because of its long-lasting Medicinal plants with antibacterial and antifungal properties against human pathogens are crucial for the treatment of a number of illnesses. Herbal products aid in reducing dental plaque, preventing bacterial growth, improving breath quality, and cleaning teeth. You can use herbal mouthwashes. in addition other dental health procedures such as flossing and cleaning your teeth. Because of their potent anti-inflammatory and anti-plaque characteristics, they applied in periodontal treatment with support. Many herbal products and their respective extracts, including peppermint, Turmeric and neem , and cloves possess demonstrated notable benefits. more so than chemical ones Because of their long-lasting anti-bacterial, antimicrobial, and anti-fungal effects on human pathogens, medicinal plants are essential for the treatment of disease. There could be a lot of benefits to using natural mouthwash instead of conventional ones. If a formulation like this could be created that individuals could safely and readily prepare utilizing at home organic products.

Keywords: - Herbal mouthwash ,Herbal natural exctrat ,Neem ,Clove.

INTRODUCTION:

Oral diseases are currently emerging and will become a major global problem (1-2). Oral health affects quality of life (3). Since modernization, advertising has changed the way of life; It has been observed that tooth decay is more common. This reflects changes in people's diet and food preparation, including starchy, sugar-rich, sticky, and sticky foods (4). More nutritious foods do not improve saliva flow and self-cleaning like unhealthy foods, and are less buffering and remineralizing tooth enamel, leading to plaque formation (5). Current access to medical and food products has decreased due to diseases in the body (due to vitamin C deficiency), but due to stress, chronic, smoking, dyslipidaemia, diabetes, etc. Dental diseases associated with dental diseases have decreased. Plaque can lead to systemic diseases that affect many people worldwide (6). It can also create other problems such as tissue degeneration and tumours, and its treatment can lead to hyposalivation, immunodeficiency, malnutrition, and other oral diseases (7). Oral hygiene is a must for oral health. You need to scrub and scrub (8). Mouthwash plays an important role in oral care and provides therapeutic benefits through rinsing and gargling. Many oral problems, from bad breath to systemic diseases, require the use of mouthwash(9). They are particularly important in the treatment of secondary infections such as oral mucositis. There are many mouthwashes on the market now. They often use a lot of synthetic products; Some of these new chemicals are healthy in the long run; for example sodium lauryl sulphate (SLS) and triclosan and others. Considering the importance and importance of this study, this article was created based on this subject. Green mouthwash is made from essential oils, which are distilled liquids obtained from flowers,

leaves, barks, stems, roots, shrubs and trees, as well as botanical ingredients known for their medicinal properties Thousands. human year (10). It has antibacterial, antimicrobial and anti-inflammatory properties.

A. History:-

From the dawn of civilization to the twenty-first century, people have understood the significance of keeping their mouth and teeth clean. Our forefathers' mouthwash rinses for keeping their teeth in good condition were equallyA few of the current most popular dental solutions show how far we've come i n improving dental care and preventing many oral diseases.^[1] Mouthwash was first mentioned in Ayurveda and traditional Chinese medicine in B.C. It is mentioned around 2700 BC. Mouthwash is a natural remedy that pat ients can use for effective dental care at home.[1]Hippocrates recommends gargling with a mixture of salt, alum and vinegar after each wash; This is a method that became popular among aristocrats in the 1990s. Greek and Roman times. It is believed that the first beautiful paintings showing the value of cleanliness and beauty were created by the ancient Egyptians. People believe that the body is dirty. Dioscorides of Padania (40-90), Greek surgeon and physician whose works are considered a medica l book, recommended the use of mouthwashes to treat bad breath. An client mouthwashes are made using herbs and spices. Greek physician Pad anima's Dioscorides created a mouthwash mixture of dicot, which was prod used from. Nut galls, olive tree leaves, pomegranate peelings, milk, wine, and oil The Romans included human pee as a hidden to their mouthwash. Because they believed Portuguese urine to be strong ger, they imported it.Urine is known to have been an important active co moment in the 18th century because ammonia kept the mouth cavity free of oral infections, particularly those that produced sulfur.Mouthwashes, often derived from plants like Coptic trifoliolate, were utilized by Native North American and Mesoamerican tribes prior to the arrival of European settler s in the Americas. The mouthwash product Odol was created in 1892 by G erman Richard Seifert and was manufactured in Dresden by Karl August Lingner, the company's founder Mouthwashes containing natural plant ext. racts are known as herbal mouthwashes. The herbal mouthwashes' natural extract is derived from a variety of Fruits, seeds, leaves, and oil from trees.[2][3]

What makes herbal mouthwash preferable? Due to their ability to target oral pathogens, provide immediate pain relief, and have fewer adverse effects, herbal mouthwashes are highly sought after. Chemical mouthwashes contain hydrogen peroxide and chlorhexidine, which instantly whiten, sterilize, and soothe teeth. However, they tend to cause tooth discolouration and may have unintended side effects, while being reasonably priced. [4]

Advantages of Herbal Mouthwash:-

Because herbal mouthwashes are non-irritating, non-staining, and alcohol-free, their use has become more popular than that of chemical mouthwashes. They are less dangerous and have very few, if any, negative effects. Not all herbal mouthwashes contain sugar or alcohol. Mouthwashes made of herbs are mild enough for even the most delicate teeth. Mouthwashes made of herbs are inherently antimicrobial. There are no harsh additives in it. Dry mouth is not a side effect of herbal mouthwash. There is a great deal of demand for it. It maintains the health of your mouth.

- **Herbal mouthwash is devoid of:**

1. Tobacco
2. Sugar
3. Synthetic hues
4. Fluorenones sodium
5. Synthetic sweeteners
6. CPC, or methylpyridinium chloride

B. Use of Herbal mouthwash :-

There are numerous oral health issues that call for the usage of mouthwash. This can range from breath fresheners to treating potentially fatal secondary infections in patients receiving bone marrow transplant treatments, like oral mucositis. In order to use mouthwashes effectively, it is necessary to accurately diagnose the oral condition and have product expertise. Using herbal mouthwash helps to maintain better dental hygiene. It aids in dental plaque management. It is applicable to gum disease. Used to eradicate bacteria from the mouth. It masks bad breath and freshens the breath. It's crucial to use mouthwash to avoid gum disease. Septic socket cleaning is done with it. It reduces inflammation and pain in the management of halitosis and mucositis. [4]

C. Herbal product as mouthwash:-

1. Neem:-



Fig. No1:-Neem.

- **Biological Source:** -The plant portion utilized is the foliage of *Azadirachta indica*, which is a member
- **Family:-** Meliaceous.
- **Chemical Constituent:-**

It stops the development of plaque and sickness. Neem is used to clean teeth and stave against illness through its leaves, branches, and seeds. Neem extract reduces the formation of germs and plaque, making it an effective treatment for gingivitis and other oral conditions. For thousands of years, people in South Asia and India have used neem leaves, twigs, and seeds to treat bacterial and fungal illnesses in addition to cleaning teeth. Given that neem extract prevents gingivitis and oral illnesses, it is appropriate for treating them. plaque development and the spread of illness. Research has demonstrated that neem significantly affects both Gram-positive and Gram-

negative bacteria, as well as other bacteria (including Streptococcus and E. coli) that cause a variety of illnesses in both people and animals.[6]

2. Turmeric:-



Fig No.2:-Turmeric

- **Biological Source :-**
- The dried root of the *Curcuma longa* plant, which belongs to the
- **Family:-** The Curcumaceae
- **Chemical Constituents:-**
It has an antibacterial effect and acts as a bacteriostatic and bactericidal agent.[8]
Turmeric can reduce pain, burning, relieve pain and can be used as a coloring agent.

3. Clove:-



Fig. No.3:-Clove.

- **Biological Source:-** Cloves are made of dried flower buds from the *Eugenia caryophyllus* plant, which is a member of the
- **Family :-**Myrtaceae.
- **Chemical Constituents: -** As a dental painkiller, cloves help reduce foul breath, are good at preventing cavities, and increase blood flow.[9]

4. Peppermint :-



Fig.No.4:-Peppermint

- **Biological Source:-** • The fragrant leaves of the plant *Mentha piperata*, which is a member of
- **Family :-**Lamiacea.
- **Chemical Constituent:-**. Since peppermint has such powerful, pure properties, it is the mint that is most frequently used in mouthwash. For gingivitis, mint is a useful treatment. A scent is produced by peppermint. For preventing cavities, peppermint oil works better.[10].

5. Liquorice:-

- **Biological Source:-** • The plant *Glycyrrhiza glabra*, which is an extract from it, is a member of the
- **Family:-**Fabaceae.
- **Chemical constituent:** - Application of liquorice: a natural flavouring and sweetening agent. [8]



Fig No5:-Liquorice .

6. Ajwain:-

Ajwainis are used as preservatives. It is used to clean wounds and treat skin diseases. Ajwain oil is also used in toothpaste and perfumes . Ajwain leaves are crushed and used to treat diseases. Ajwain seeds Can be used Avoid foul breath. Additionally, several mouthwashes include thymol derived from ajwain. You may avoid bad breath by chewing fennel and ajwan seed.[11]



Fig No.6:-Ajwanin.

7. Basil:-

In Ayurveda, Tulsi, often known as holy basil, has several therapeutic applications and medical benefits.. Its leaves are effective against mouth ulcers and infections. Tulsi's antiinflammatory and antiinflammatory properties s make it an excellent treatment for gum disease. Its leaves are effective against mouth ulcers and infections. It is also used to treat gingivitis and other gum diseases. Tulsi's antiinflammatory and antiinflammatory properties make it an effective treatment for gum disease . [12]



Fig No.7:-Basil plant .

8. Turmeric:-

Turmeric mouthwash (10 milligrams of extract of curcumin and flavouring diluted in 100 millilitres of water.) has been shown to be as effective a s a medicatioalhxidine gluconate (CHX), a golden treatment .



Fig.8: Turmeric

9.Oil Pulling therapy: –

Swishing oil in the mouth is a classic Indian folk medicine known as "oil pulling" or "oil swishing." One tablespoon or so of oil (the best oils to use are sesame, sunflower, and coconut)..



Fig No9:-Oil Pulling therapy

9. Pomegranate (Punicagranatum):-

Nowadays, pomegranates are being used extensively in the field of oral health. Mouthwash with pomegranate extract may prevent the growth of tartar and dental plaque by stifling the bacteria that generate plaque. It may help relieve inflamed tissues due to its anti-inflammatory qualities. [13]



Fig No.10:-Pomegranate (Punicagranatum).

10. Green Tea:-

It can be used as a mouthwash or gargle to treat tonsillitis, thrush, dental decay, laryngitis, mouth sores, plaque buildup, and sore throats. It doesn't have the same negative effects as chemical mouthwashes and successfully lowers the buildup of plaque.[14]



Fig.11:-Green tea leaf.

11. Lemon grass oil:

Cymbopogon citrus fruits possess antimicrobial, anti-inflammatory, and superoxide scavenging properties 11, 12. Together with these other effects, it lessens inflammation, the bacterial burden, and the tissue's oxidative stress. Along with the non-surgical therapy, the mouthwash infused with lemon grass oil can be used as an adjuvant.

Lemon grass oil keeps gum disease and tooth decay at bay by eliminating microorganisms from the oral cavity. Because of their astringent qualities, gums are strengthened. As a result, teeth are healthier and issues like gum leakage and tooth loss can be prevented. Because of its scent, the oil also makes breathing easier.[15]



Fig.No.11:-Lemon grass oil.

12. Guava (Lemon Guava, Apple Guava):-

It's a member of the plant family Myrtaceae. This little tree, which may grow up to three meters in height, is widely used in herbal medicine for its fruit, bark, and leaves. The decoction of leaves can also be applied as mouthwash to treat a variety of ailments, such as gum inflammation, sore throats, and toothaches¹¹. It is made up of bioactive substances that are useful against a variety of illnesses, including saponin, tannin, flavonoids, and alkaloids. Guava mouthwash is an antibacterial and astringent that helps treat bleeding gums, sore throats, gum swelling, pyorrhea, and soreness. It

can be used a couple times a day.[16]According to Ferdinand et al., leaf extracts containing the flavanoids morin-3-o-lyxioide and morin-o-arabinoside have potent antibacterial and antiviral properties and are useful in treating aphthous ulcers.

Tropical plants, such as uavas, are grown in tropical and subtropical regions and provide juicy pink fruits. Scent-filled, wrinkled leaves adorn this shrub. Infections of the mouth, such gum disease, have been effectively contained by the leaves. Wash a few (no more than five) guava leaves once you've picked them. For a minimum of five minutes, chew them well, making sure the liquid from the leaves reaches every part of your tongue.The guava leaves are chewed, spat out the juice, and rinsed with clean water after finishing gagging and chewing. The antibacterial richness found in guava leaves helps to maintain oral health. Not everyone likes to chew guava leaves.[17]



Fig.No.12:-Guava (Lemon Guava, Apple Guava)

13. Cinnamon (Ceylon cinnamon, Chinese cassia, Cortex cinnamoni):-

It is made from the dried bark of *Cinnamomum zeylanicum* shoots that are cultivated on cut stock and belong to the Lauraceae family. It contains tiny amounts of ketones, alcohols, starch, cinnamic aldehyde, mucilage, phlobatannins, cinnamic aldehyde, and volatile oil (BP/EP not less than 1.2%). Ceylon, Java, Sumatra, Brazil, Jamaica, and India are among the countries where it is extensively grown. Propagation is the way used to develop it. The quill is either single or double compound. As a fragrant spice, cinnamon, flavoring, analgesic, antimicrobial, antifungal, and carminative, among others¹⁵ and ¹⁶. Fruits, bark, leaves, flowers, and buds are among the components of cinnamon from which essential oil and extract are extracted. It was found by Wiwattanarattanabut et al. that cinnamon essential oil has strong antibacterial properties against cariogenic bacteria *S. mutans* KPSK and *lactobacillus casei*.^[18]



Fig.No.13:-Cinnamon (Ceylon cinnamon, Chinese cassia, Cortex cinnamoni)

14. Wintergreen (Winterberry, Deer Berry, Box Berry, Checker Berry) :-

It comes by distilling the dried leaves of *Gaultheria procumbens* Linn. mostly found in the northern United States, from Georgia to Newfoundland, and belonging to the Ericaceae family. Methyl salicylate makes up 99 percent of its volatile oil, along with other substances such as secondary alcohol, ketone, ester, and Gaultherilene. It has astringent, antispasmodic, anti-inflammatory, and analgesic properties. With a MIC of 0.39 to 4.16 mg/ml, *G. procumbens* has the strongest antimicrobial activity against *P. aeruginosa*. It also inhibits the development of *Candida* sp. Wintergreen oil is effective in treating gum and tooth pain²⁴.

The blueberry family includes the Eastern Teaberry as an understory plant. Acidic soil and light to moderate shade are prominent characteristics of hardwood woods. It prefers wet, well-drained soil, although it will thrive in clay and damp soil that has been enhanced with organic matter. It can withstand intense shade, which makes it a great groundcover in shaded parts of the landscape. Sow in a forest garden, a rock garden, or by a foundation. A scent of wintergreen is emitted when the leaves are crushed. Plants can be placed 10–14 inches apart, however they will usually sprawl out and create a thick carpet. Many different kinds of birds and small animals eat the spherical, juicy crimson seed capsules.^[15]



Fig No.14:- Wintergreen (Winterberry, Deer Berry, Box Berry, Checker Berry)

15. Miswak (Drumstick, Matchstick):-

When using *S. persica* extract instead of water for mouthwashing, the pH of the plaque rose more slowly, and at 30 minutes, the difference between the two groups was statistically significant, according to Sofrata et al. (2007). People that like *Salvadora persica* roots are found throughout Africa, South America, the Middle East, and Asia. The exact method for wielding the Miswak was recorded by the Babylonians circa 5000 BC. Many antimicrobial properties make it popular in the Middle East. A miswak extract improved gingival health and prevented the formation of cariogenic bacteria. Research indicates that lactobacilli were less vulnerable to miswak²⁵ than *Streptococcus mutans*.

Deep cleaning and long-lasting, powerful fresh breath are provided by the special combination of natural ingredients in Miswak Mouth Wash Mint Fresh, which includes peppermint, *salvadora persica* (Al Arak), and menthol.

In the hadith (the traditions pertaining to the life of Muhammad), the miswak is often recommended for usage. It is advised to use the miswak before or during wudu

(ablution), when one wakes up in the morning, before entering the mosque, before entering one's home, before and after embarking on a journey, on Fridays,[10] before going to bed and after waking up, when feeling hungry or thirsty, and before entering any religious assembly.[12]



Fig No.15:-Miswak (Drumstick, Matchstick)

16. Myrrh (Commiphora Molm):-

The Arabic word "mur," which meaning bitter, is the source of the myrrh's name. The tree *Commiphora molmol* yields oleo gum resins, which are comprised of gum, volatile oil (myrrhol), and resin (myrrhin). Against *Staphylococcus*, *Candida albicans*, and *Streptococcus mutans*, myrrh possesses antibacterial properties. It also aids in maintaining dental health, mending oral wounds, and lowering gingival inflammation²⁶. Three primary ingredients make up myrrh: gum, volatile oil, and resin. Galactose, 4-O-methylglucuronic acid, and arabinose¹⁹ make up 65% of the gum's carbs, whereas 20% of its protein content is unknown.

Resin is secreted by trees when a wound breaks through the bark and into the sapwood. The same is true with myrrh gum and frankincense. The process of extracting myrrh involves inflicting wounds on the trees so that the waxy gum, which coagulates rapidly, bleeds. The gum turns firm and shiny after harvest. Gum comes in transparent or opaque varieties and has a yellowish gets white

The *Commiphora myrrha* plant is widely used to collect myrrh gum. These days, *Commiphora myrrha* and *Commiphora molmol*, thought to be synonymous. Native to the Somali Region of Ethiopia, Yemen, Oman, Eritrea, and portions of Saudi Arabia, the plant *Commiphora myrrha* is native to these countries. [9]



Fig No.16:-Myrrh (Commiphora Molm)

CONCLUSION :-

Different situations can be addressed with mouthwashes, depending on the type of oral sores that are present. The purpose of mouthwash is to protect your gums from disease and help you maintain better dental hygiene. Cost-effectiveness and little to non-existent adverse effects have been demonstrated with herbal mouthwash. Because they are antioxidants, antiseptics, and analgesics, herbs have been successfully utilized in medicine to treat mouth infections and boost immunity. The antibacterial properties of several of these herbs make them helpful in the treatment of a variety of oral conditions.

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