

# **Review on Herbal Mouthwash**

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**Abstract:** *The mouth is home to various bacterial organisms. But some of these organisms are harmless, and there are some organisms that are harmful and cause oral symptoms, bad breath, and oral disease. Therefore, it is important to maintain good oral and dental hygiene for oral and physical health. Herbal mouthwash is a mouthwash made from plant extracts. There is no alcohol in this preparation, plant extracts are obtained from the leaves, fruits, flowers, bark and roots of various plants. In this review, we have found some herbal remedies that can be used in mouthwash formulations with minimal side effects.*

**Keywords:** Herbal mouthwash, natural extracts, plaque maintenance

## **I. INTRODUCTION**

Mouthwashes are liquids that have analgesic, antibacterial, and anti-inflammatory qualities. Mouthwash is a common cure because of its ability to reduce plaque and have antibacterial, deodorizing, and refreshing properties. Glycerine, artificial sweeteners, surface-active agents, flavourings, and colours are required components. [1,2] Mouthwash comes in two varieties: chemical and herbal. Phytochemicals are naturally occurring compounds in herbal mouthwash that have the necessary anti-microbial and anti-inflammatory properties. The use of herbal mouthwash is growing in popularity as it doesn't include alcohol or artificial Flavors, colours, or preservatives. Because it contains organic herbs that naturally clean and cure gums and teeth.

Herbs like neem, Yovani sattva, nagavali, gandhapurataila, pile, kubitka, odium, Echinacea, Chameli leaves, etc., having anti-microbial properties, are found in several herbal mouthwashes.

Mouthwashes contain various herbs, such as peppermint which cools the mouth, and clove oil, neem, turmeric, basil plant which has long been used for dental health due to its antiseptic, antibacterial, and antiviral qualities and green tea use for reduces plaque accumulation

## **HISTORY OF MOUTH WASH:**

- Since the beginning of civilization until the beginning of the 21st century, people have understood the significance of keeping their mouth and teeth clean.
- When it comes to developing dental treatments that successfully cure and prevent different kinds of oral illnesses, the mouthwash our forebears used to keep their teeth clean was just as popular as some of the ones that are available now.
- About 2700 BC, Ayurveda and Chinese medicine contain the earliest documented mentions of mouth washing. Mouthwash serves as an efficient at-home dental hygiene regimen for patients receiving chemotherapy.
- Hippocrates advised a mixture of salt, alum, and vinegar throughout the Greek and Roman eras, when mouth washing after mechanical cleansing became popular among the higher classes.
- The first creative illustration that highlights the value of hygiene and beauty is credited to the ancient Egyptians. A dirty body was seen as impure. The following mouthwash mixture was recommended by Greek physician and surgeon Padania's Dioscorides (40–90), whose works functioned as a medical textbook.
- Mouthwashes, generally derived from plants like Coptis trifolin, were utilized by Native American and Mesoamerican societies in North America before European settlers arrived.
- The mouthwash brand Odol was created in 1892 by German Richard Seifert and was manufactured in Dresden by Karl August Lingner, the company's founder (1861–1916). [4]



## ANATOMY OF ORAL CAVITY:

### Oral Cavity

The oral cavity is a complex habitat made up of the tongue, soft and hard palate, and buccal mucosa. The bacteria present in the human oral cavity are referred to as the oral microbiome, oral microbiota, or oral microflora. Using a microscope, Antony van Leuwenhoek found the oral microbiota. The mouth contains a variety of microorganisms, including bacteria, fungus, and viruses. The oral cavity is home to a variety of bacteria, including Actinomycetes, Bacillus, and Proteobacteria.

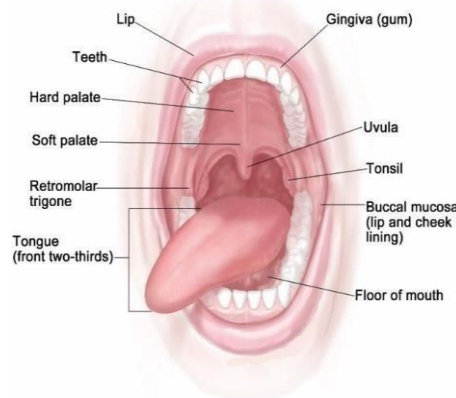


Fig1: Anatomy Of

There are 85 different types of fungus in the human mouth. This candidate is the most significant among them. Candida attacks oral tissue and collaborates with Streptococcus to build a biofilm, which is then harmful.

All phases of life are susceptible to viruses, the most prevalent of which being Lactobacillus, Porphyrians gingivitis, Streptococcus mutans, and Staphylococcus. The primary cause of dental plaque, caries, and bacterial infections that affect the hard tissue of teeth is S. mutans. gingival is a periodontal pathogen and gram-negative anaerobic bacteria. Dental cavities can be readily caused by the excessive amount of lactic acid produced by Lactobacillus.[5]

### USES OF MOUTHWASH:

Use of mouthwashes requires in-depth understanding and accurate identification of diverse conditions. The choice is based on a number of variables, including the patient's oral health, the likelihood of the disease, the mouthwash's safety and efficacy, and the patient's capacity to practice good oral hygiene. Other factors to be taken into account include the patient's risk of oral disease, the condition of their teeth, gingiva, and oral mucosa, the mouthwash's efficacy, and any potential negative effects[6]. Several oral health conditions necessitate the use of mouthwash. This can range from breath fresheners to treating potentially fatal infections like oral mucositis in patients receiving bone marrow transplant therapy. Mouthwashes should never be the primary oral hygiene solution utilized.[7]

### MOUTHWASHES CAN BE USED IN THE FOLLOWING CASES

Gum disease, Mucositis, Halitosis, Periodontal disease, Xerostomia, to clean septic sockets, to control plaque, to relieve pain, to effectively deliver fluoride in order to prevent dental caries, Reduce inflammation, Breath freshener [8]

### BENEFITS OF HERBAL MOUTHWASH:

- Herbal mouthwash has an advantage over chemical mouthwashes since it is nonirritating, non-staining, and alcohol-free.
- 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 naturally antimicrobial.



- There are no harsh ingredients in it.
- Dry mouth is not a side effect of herbal mouthwash.
- There is a great deal of demand for it.
- It maintains your teeth healthy and free of plaque. [9]

#### **PLANT PROFILES:**

##### **1) TULSI:**



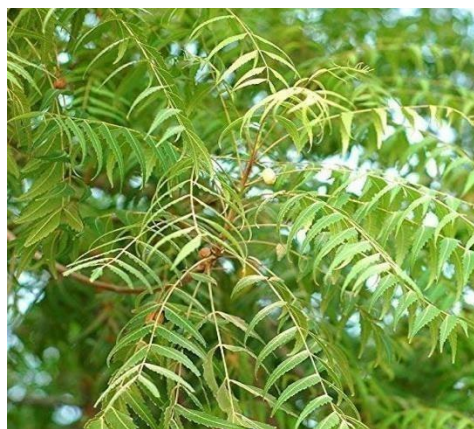
**Fig 2 : Tulsi**

- Biological name: *Ocimum sanctum*
- Kingdom: plantae
- Family: Liliaceae

Tulsi is a multipurpose little plant and subshrub. The value of utilizing it medicinally is mentioned in Ayurveda. The leaves work wonders for infections and oral ulcers. These ailments can be cured by chewing a few leaves. Herbs can treat dental diseases. Its leaves are made into a powder that may be used to wash your teeth after being sun-dried. It may also be used as toothpaste by combining it with patterned oils to create a paste.

It works wonders for massaging gums, preventing bad breath, and keeping teeth healthy. Traumatized (Green) has anti-inflammatory and anti-infective qualities that make it a successful therapy for periodontal disease.[10]

##### **2) NEEM:**



**Fig 3: Neem**



- Biological name: Azedarach indica
- Kingdom: plantae
- Family: mahogany

It consists of nearly all plant elements, the most significant of Which are the stem bark, root bark, leaves, and flowers, fruits of the Meliaceae family plant Azadirachtolides. It is indigenous to Pakistan and India. The complex tetranortripenoid lactones azadirachtin, nimbi, salami, and nimble B are found in neem seeds. The most effective treatment for tooth decay, tooth discomfort, and mouth ulcers is indica. It has been shown to have antibacterial action against a variety of bacteria, including *S. mutant* and *S. faecalis*. Neem has antioxidant, antifungal, antiviral, antitumor, and antimicrobial properties [11,12,13]

### 3] PEPPERMINT:



**Fig4: Peppermint**

- Biological name: *Mentha piperita* L
- Kingdom: plantae
- Family: Liliaceae

Due to its high menthol concentration, peppermint is typically used to flavour tea, desserts, candies, chewing gum, and toothpaste. Menthol and methyl esters, including methyl acetate, are also present in the oil. It is the most traditional and favoured taste of candies with a mint flavour. Moreover, peppermint oil may be utilized in shampoos and soaps to offer hair a minty smell and to chill the skin. Seasoning is an adaptable oil that has anti-viral, anti-inflammatory, analgesic, carminative, and anti-spasmodic properties.

The essential oil of peppermint is used to cure a variety of ailments, including mental disorders, indigestion, nausea, bronchitis, sinusitis, migraines, and irregular periods.

Additionally, it works wonders for treating the flu and cold.[14]

### 4] LEMON GRASS



**Fig5: Lemon Grass**





- Biological name: Cymbopogon citrates
- Kingdom: plantae
- Family: Pinaceae

Citrus Cymbopogon has anti-inflammatory, antibacterial, and superoxide scavenging properties [11, 12]. Additionally, it lessens the amount of germs present, lowers inflammation, and lessens the tissue's oxidative stress. You can use the mouthwash infused with lemon grass oil as a supplement to the nonsurgical therapy. [15]

#### 5] POMEGRANATE:



Fig 6: Pomegranate

- Biological name: Punica granatum
- Kingdom: plantae
- Family: Lythraceous

Nowadays, pomegranates are being used extensively in the field of oral health. Mouthwash with pomegranate extract may prevent dental plaque and tartar buildup by stifling the bacteria that generate plaque. Its anti-inflammatory qualities might aid in relieving inflamed tissues.[11]

#### 6] GREEN TEA



Fig 7: Green Tea



- Biological name: Camellia sinensis
- Kingdom: plantae
- Family: Theaceous

Tea as a Mouthwash In addition to treating wounds, flu, bug bites, laryngitis, stomatitis, plaque buildup, sore throat, thrush, tonsillitis, and lungs, it may be used as a mouthwash. It may be made into a bath powder to treat parasites like scabies and ringworm, as well as fungal illnesses including athlete's foot, lice, and crabs. It can also be used as a rinse to prevent candida. We assessed the drug's composition and assessment as a novel product that is nontoxic and suitable for use by youngsters and expectant mothers.[17]

#### FORMULATION TABLE:

<i>Ingredients</i>	<i>Uses</i>	<i>Amount</i>
Tulsi leaves	Antibacterial, Antiseptic	1 g
Neem leaves	Antimicrobial	1 g
Peppermint oil	refreshing and cooling	0.5 g
Lemon grass oil	Antibacterial	0.5g
Pomegranate powder	anti-inflammatory	2 g
Green Tea	Antimicrobial	1 g
Distilled Water	base	250 ml
Sodium benzoate	Preservative	0.25 g

#### METHOD'S:

##### Preparation Of Ingredients:

Take fresh leaves of Tulsi and enemas the leaves thoroughly using distilled water. Take pomegranate peel, wash it, and dry it completely.

##### Making The Powder:

Using a mixer, grind the dried neem leaves, Tulsi leaves, and pomegranate peel into a fine powder.

##### Boiling:

In a pot, add the powdered mixture to a specific amount of water (adjust based on desired concentration. Boil the mixture for about 30 minutes.

##### Filtration:

After boiling, filter the solution using filter paper into a beaker to remove the solid residues.

##### Adding Essential Oils:

Once the solution has cooled slightly, add a few drops of peppermint oil, lemon oil, and green tea oil. Stir well to mix.

##### Preservation:

Finally, add sodium benzoate to the mixture to preserve it. Stir until fully dissolved.

##### Packaging:

Pour the finished mouthwash into a clean container and seal it. Store the mouthwash in a cool place to maintain its freshness.

## II. CONCLUSION

Mouthwashes can be utilized for different circumstances, contingent upon the sores present in the oral cavity. Mouthwash is intended to assist with working on your oral cleanliness and shield your gums from illness. Herbal mouthwash has been proven cost effective with very less or no side-effects. 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. Many of these herbs show antimicrobial activities which can be useful for the management of various oral problems.



### REFERENCES

- [1]. Waite FC. The background of modern American dentistry. J Dent Educ, 1937; 1: 91.
- [2]. Ozan F, Sumer Z, Effect of Mouthrinse Containing Propolis on Oral Microorganisms and Human Gingival Fibroblasts. Eury J Dent, 2007; 1(4): 195 - 201.
- [3]. Sandhya R. Herbal product as mouthwash- a review. Int J Sci Res. 2017; 6(7):1334-7.
- [4]. Shivani Suresh Uttar war, Formulation and Evaluation of Herbal Mouthwash, IJCRT, 2022, 10(2), 55-64
- [5]. Manyang, nongradual, showing. oral microbiota : a new view of body health, food science and human wellness
- [6]. Reddy Dr H And Rd. Preethi. Herbal Mouthwashes. European Journal of Molecule and Clinical Medicine. 2020; 7(2):6655-6661. 7. Sandhya R. Herbal Product as mouthwash A review. International Journal of Science and Research. July 2017; 6(7):1334-1337.
- [7]. Reddy Dr H And Rd. Preethi. Herbal Mouthwashes. European Journal of Molecule and Clinical Medicine. 2020; 7(2):6655-6661.
- [8]. Parashar A. Mouthwashes and their use in different oral conditions. Sch J Dent Sci. 2015; 2(2B):186-91.
- [9]. Koo, H., Cury, J.A., Rosalene, P.L., Ambrosiano, G.M., Ikegai, M. and Park, Y.K., 2002. Effect of a mouthrinse containing selected propolis on 3-day dental plaque accumulation and polysaccharide formation. Caries Research, 36(6), pp.445-448.
- [10]. Shah B and Seth AK. Textbook of Pharmacognosy and Phytochemistry. IsT Edition. Elsevier. 238-240, 259-260, 284-285, 290-291, 306-307, 315-316, 489-490, 551-552
- [11]. Anushri Myesha R, Puranik M. Herbs: A Good Alternative To Current Treatments for Oral Problems. International Journal Of Advance Health Science. April 2015; 1(12):26-32.
- [12]. Lakshmi T, Krishna V, Rajendra R. Azadirachtolides: A Herbal Panacea In Dentistry- an update. Pharmacognosy Review. JanJune 2015; 9(17):41-44.
- [13]. R. Eccles. Menthol and Related Cooling Compounds. J. Pharm. Pharmacol 1994; 46(8):618-630p. PMID 7529306.
- [14]. Weaver A, Fleming SM, Smith DB. Mouthwash and oral cancer ; Carcinogen or coincidence 1979; 37(4):250-3. Oral Surge
- [15]. Grenier D; Effect of chlorhexidine on the adherence properties of Prohormones gingival is. J Clin Periodontal, 1996; 23: 140- 2
- [16]. Feres, M., Figueiredo, L.C., Barreto, I.M., Coelho, M.H., Araujo, M.W. and Cortell, S.C., 2005. In vitro antimicrobial activity of plant extracts and propolis in saliva samples of healthy subjects. and periodontally-involved Journal of the International

