



ENORMOUS BENEFITS OF HERB IN HERBAL MOUTH WASH: A REVIEW

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Abstract:

For oral hygiene, mouthwash is a liquid accessory used to clean and maintain the health of our teeth. Nowadays, we use commercial mouthwash that contains several chemicals that are bad for our oral cavity, like sodium lauryl sulphate, thymol, methyl salicylate, benzalkonium chloride, hydrogen peroxide, and alcohol. Importance of mouth and teeth cleanliness has been recognized from the Earliest days of civilization to the 21st century. Patients and oral health Practitioners are faced with a multitude of mouthwash products containing many Different active and inactive ingredients. Making informed decisions as to the Suitability of a particular product for a particular patient can be a complex task. Although many popular 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. Various herbal products And their extracts such as Guava, Pomegranate, Neem, Propolis, Tulsi, Green Tea, Cranberry, Grapefruit etc, have demonstrated important advantages over chemical ones. Natural mouthwashes may provide a number of benefits over chemical ones. If mouthwashes that are simple to use and apply can be developed when carefully made and utilised at home by individuals utilising natural materials, it may result in population's overall dental health has improved. This evaluation is a try to list these natural remedies that could be used as effective mouthwashes.

Keywords: herbal, mouthwashes, oral, hygiene, treatment, natural remedies.

Introduction:

The first creative drawings that emphasise the value of hygiene and beauty are thought to have been created by the ancient Egyptians. An unclean body was believed to be unclean. Pedanius Dioscorides (40-90 AD) who wrote works that served as a recommended for the treatment of in a medical textbook fowl breath mouthwash with a combination of the decoct of olive leaves that comes after tree, milk, pickled olive juice, gum, and tree juice oil and wine-infused myrrh, pomegranate seeds, vinegar and nutgalls. The Romans of antiquity incorporated brushing their teeth in their religious practises ceremonies. Because of the patriarchy, they cleaning their teeth like slaves.[1]. Natural ingredients have been employed for folk medical reasons for countless generations. Many of them have pharmacological effects that may be seen, including antibacterial, anti-inflammatory, and cytostatic effects, among others. Propolis has been proven effective for human and veterinary treatment in recent years, according to studies.[2]

The mouthwashes antibacterial and antimicrobial qualities can stop the development of bacteria that cause cavities, lessen plaque, eliminate bad breath, and maintain strong, healthy teeth and gums. Due of its ability to produce exosmosis, salt helps many periodontal illnesses with their swelling gum conditions. Saline acts as a mechanical cleanser and an antibacterial because it is a hypertonic solution, which causes lysis of microorganisms. The therapeutic increase in blood flow (hyperemia) caused by the solution's heat promotes heating of the surgical site. Additionally, it promotes pulse outflow from dental abscesses.[3]

Use of guava (*Psidium guajava*) as a Mouthwash:



Fig.1-guava

The phytoconstituent saponins, tannins, flavonoids, and alkaloids included in the twigs used as chewing sticks in southern Nigeria are what make them so efficient. When used without toothpaste, chewing sticks are a very reliable, efficient, and effective method of cleaning teeth. Chewing stick users typically have healthy, robust, white teeth that are free of dental plaque and cavities.[4]

Guava is used for the same ailments in Brazil as it is known as Peru, where it is regarded as an astringent and diuretic. Decoction is also advised for use as a mouthwash to treat mouth swelling, laryngitis, and sore throats. Many people in Southern Nigeria find that chewing sticks work quite well at cleaning their teeth when used without toothpaste. Chewing stick users typically have healthy, strong teeth that are free of dental plaque and cavities. These findings reveal the rationale behind the samples usage of tea as a preventative measure and a means of prevention against caries and plaque. The leaves are chewed to treat toothache in Ghana and Nigeria for inflamed gums and oral ulcers, as well as for bleeding gums, a decoction of the root-bark is advised as a mouthwash, while a decoction of the leaves forms an effective gargle.[5]

Use of neem (*Azadirachta Indica*) as a Mouthwash

Neem has been used for at least 4500 years, beginning with the Harrappa civilisation in ancient India. The history of the Indian way of life and the Neem tree are intricately intertwined. Neem extracts are now used to treat a variety of skin conditions such as antiseptic, to fight off endo and ectoparasites, or even just as a herbal mouthwash.[6] According to Patel and Venkatakrishna (1988), *A. indica* has also shown to be effective in treating periodontal diseases. *A. indica* extract was found to significantly reduce plaque index and bacterial count in a small Indian study when compared to positive controls (chlorhexidine 0.2%). However, there has never been a published double-blind trial on



Fig.2-Neem

a neem-based mouthwash. This work closes this knowledge gap and confirms past findings about the effectiveness of neem formulations in delivering the natural bioactive compounds with in the mouth. [7] investigated the inhibitory effects of neem aqueous extracts on bacterial aggregation, growth, adhesion to hydroxyapatite, and production of insoluble glucan, which may affect in vitro plaque formation. Neem is derived from the bark-containing sticks (Neem stick) of *A. indica*. Insoluble glucan production was

prevented by the extracts from *Melaphis christians* and Neem sticks, which were both rich in gallotannin. Oral streptococci grew in an observable bacterial aggregation after being exposed to the Neem stick extract. These findings imply that neem stick extract can lessen some streptococci's capacity to colonise tooth surfaces.[8] Nearly all neem studies mention its antibacterial qualities, while more recent studies usually only mention this in passing and emphasise more current findings or concentrate on a more narrow application. Since treating bacteria is relatively simple (unlike treating viruses or cancer), most of this work has been done in laboratories. Neem has been demonstrated to have significant effects in test tubes on both gram-positive and gram-negative organisms as well as other bacteria, including *E. coli*, streptococcus, and salmonella, which are known to cause a variety of human and animal diseases. Some of the more recent research has been on oral care, a crucial issue in wealthy countries with ageing populations and developing countries with inadequate access to professional dental care.[9]

Use of Tulsi (*Ocimum sanctum*) as a Mouthwash



Fig.3-Tulsi

Dental decay, halitosis, laryngitis, oral sores, plaque buildup, sore throat, thrush, and tonsillitis can all be treated with it as a mouthwash or gargle. They can be applied topically to treat bruises, bronchitis, colds, flu, insect bites, and wounds. It can be prepared as a douche to ward off *Candida* or as a soak to treat fungal illnesses including athlete's foot, ringworm, and parasites like crabs, lice, and scabies. In a study, green tea mouthwash was developed and tested as a novel, risk-free, and nontoxic solution for kids and expectant mothers. According to studies, green tea mouthwash successfully reduces plaque buildup and has none of the negative side effects associated with chemical mouthwashes.[10]

Use of pomegranate (*Punica granatum*) as Mouthwash:



Fig.4-pomegranate

Presently, the field of dental health is seeing significant applications for pomegranates. Clinical research has demonstrated the astonishing vigour with which this well-known antioxidant superstar combats the molecular causes of tooth decay.[11],[12],[13]. Pomegranate containing mouthwash may help prevent dental plaque and tartar buildup by inhibiting the activity of the microorganisms that generate plaque when used often in conjunction with toothpaste that has been strengthened with bioactive plant Extracts. Additionally, the anti-inflammatory characteristics of pomegranate polyphenols may aid to calm irritated tissues.[14],[15]

The effects of using a mouthwash containing pomegranate extract on the risk of gingivitis were evaluated in a 2007 study at the Human Nutrition Center at Ohio State University. Researchers highlighted that polyphenolic flavonoids included in pomegranates, such as punicalagins and ellagic acid, are thought to prevent gingivitis through a variety of processes, including a decrease in oral oxidative stress.[16],[17],[18] direct anti-inflammatory actions,[19] antibacterial effects, [20]direct elimination of plaque from the teeth, and direct antioxidant activities.[20] They also mentioned that pomegranate extract has already been shown in a published pilot trial to lessen the clinical symptoms of chronic periodontitis.[21]

In the Ohio State trial, 32 healthy young men and women were chosen at random to use pomegranate mouthwash three times each day for four weeks, or a placebo. The subjects were told to rinse five minutes each time. Saliva samples were examined for a number of periodontitis and gingivitis markers. Saliva total protein concentration, which is often higher in persons with gingivitis and may be correlated with plaque-forming bacterial content, decreased in subjects who rinsed with pomegranate solution.[22],[23]

Significant drops in aspartate aminotransferase activity in the saliva were also observed in pomegranate-treated participants.[24] This enzyme is higher in people with periodontitis and is regarded as a reliable sign of cell damage. Alpha-glucosidase, an enzyme that breaks down sucrose (sugar)[25], is likewise less active in saliva after pomegranate consumption, but ceruloplasmin, an antioxidant enzyme, is more active.[26]

Use of propolis as mouthwash



Fig.5-propolis

Along with numerous health advantages, bees propolis has shown effective in treating a variety of dental conditions, including plaque buildup, cavities, gum disease, and mouth ulcers. It inhibits periodontal disease and has antiplaque and anti-inflammatory properties when added to toothpaste.[27] Propolis has been proven to serve as an anti-inflammatory by preventing the production of prostaglandins, activating the thymus gland, boosting phagocytic activity in the immune system, stimulating cellular immunity, and enhancing the healing effects on epithelial tissues. Propolis also has minerals like iron and zinc that are crucial for the production of collagen.[28],[29]It can even be used as an anaesthetic and dental adhesive. In one Russian study, the authors advise treating the root canals while mixing a 4-percent alcohol solution of bee-propolis “glue” with the root canal filler. The adhesive stimulates bone regeneration and soothes pain in addition to battling acute and chronic periodontal infections. Patients used a propolis mouthwash for 45 days following oral surgery in one Brazilian trial. The researchers came to the conclusion that it not only helped heal the surgical wounds but also had pain- and inflammation-relieving benefits.[30]

Use of green tea (*Camellia sinensis*) as a Mouthwash:



Fig.6-Green tea

The use of green tea mouthwash on a daily basis may help treat or prevent gingival irritation. Adolescent pupils who are more susceptible to periodontal inflammation may benefit from and find value in its prescription.[31]

It can be used as a mouthwash or gargle to treat tonsillitis, laryngitis, oral sores, plaque accumulation, sore throat, and dental decay. To treat bruises, bronchitis, colds, flu, insect bites, and wounds, thyme can be administered topically. To treat fungal conditions including athlete's foot, ringworm, and parasites like crabs, lice, and scabies, it can be made into a douche to fend off *Candida* or a soak. A unique, risk-free, and nontoxic treatment for children and expecting moms was created and tested in a study as green tea mouthwash. Studies show that green tea mouthwash effectively lowers plaque accumulation and has none of the unfavourable side effects connected with pharmaceutical mouthwashes.[32]

Use of Alum as a mouthwash

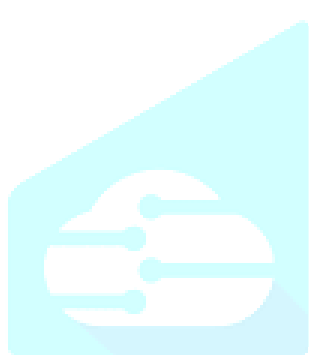
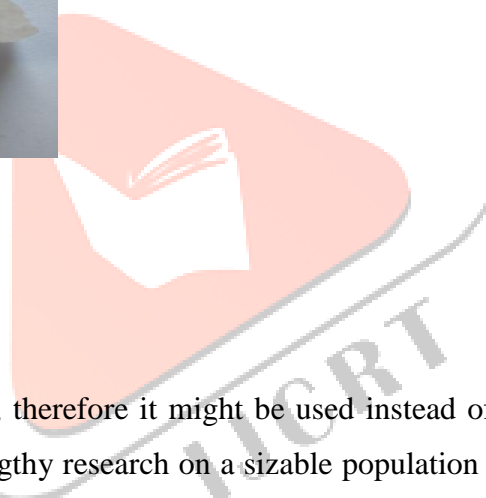
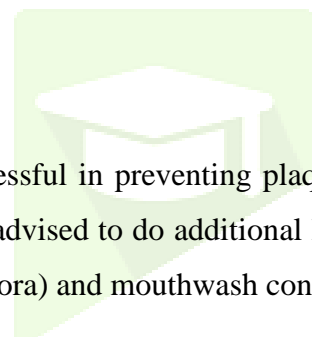
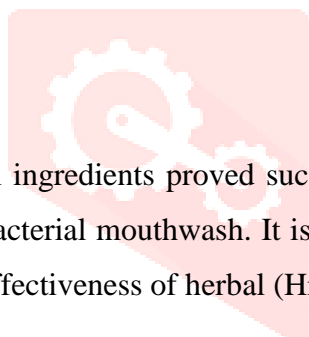


Fig.7- alum



Alum ingredients proved successful in preventing plaque, therefore it might be used instead of traditional antibacterial mouthwash. It is advised to do additional lengthy research on a sizable population to ascertain the effectiveness of herbal (Hi-ora) and mouthwash containing alum in enhancing oral health status.[33]

Use of Turmeric (*curcuma longa*) as mouthwash:



Fig.8- Turmeric

There is considerably more to turmeric than just the well-known spice that gives curry blends their yellow colour and slightly bitter or astringent flavour. It is a wonderful healing plant that has been prized for its medicinal qualities in Chinese and Ayurvedic medicine for thousands of years, as well as having a substantial impact on the prevention and treatment of many modern-day issues in the West. It is a potent antioxidant with health-promoting effects on the cardiovascular, skeletal, and digestive systems, making it one of the best herbs for detoxification. It is also an excellent natural antibiotic.[34] Western science demonstrates the superiority of turmeric as an anti-inflammatory herb. It has at least two chemicals, curcumin and curcuminoids, which work to reduce inflammation in a manner similar to that of NSAIDs COX-2, which block the production of prostaglandins, which are associated with arthritic inflammation.[35],[36]



Use of Lemon Grass (*Cymbopogon citratus*) as Mouthwash.

Fig.9- lemongrass

Lemongrass oil possesses anti-inflammatory, antibacterial, and superoxide scavenging properties.[37], The general health of the tissues will be impacted by reductions in bacterial load, inflammation, and oxidative stress. Studies have been done to demonstrate that lemongrass oil mouthwash can be utilised as an adjuvant to the nonsurgical therapy based on the aforementioned property.[38]

Use of Peppermint (*mintha piperita*) as Mouthwash:

Due to its potent, pure properties, peppermint is the mint that is most frequently utilised in commercial products, including liqueurs, toothpastes, soaps, and mouthwashes. It is utilised in medicines not only as a tasty flavour but also because it has therapeutic effects. For millennia, people have used mint as both a spice and a medicinal.

The pungent and energising odour is caused by menthol and menthyl acetate, which are primarily found in older leaves and preferentially form during lengthy daily sunshine periods. Ketones, menthone, and pulegon, on the other hand, have a less appealing scent.[39]



Fig 10- peppermint

Marketed preparation of herbal mouthwashes: [40]

Product name	Manufactured by	Key ingredients	Treat
Colgate plex	Colgate	Mint, Camellia sinensis	Reduce Gingivitis and plague
Listerine cool mint zero alcohol mouthwash	Johnson and Johnson	Mint	Bad odour and antiseptic
CIP-O-FRESH Antibacterial mouthwash	Cipla	Peppermint ,CHX	Tooth decay and bad odour
Biqol Mouthwash	Across laboratory private limited	Benzydiamine	Reduce mouth and gum pain and infection
Bioaurveda antibacterial germ defence mouthwashes	Bioaurveda	Basil, turmeric ,clove, mint , Ginger	Antibacterial, Anti-cavity and treat bad odour

Table: 1

Conclusion:

An effort has been made to include some of the easily accessible herbs, plants, and specific fruits that can be used by everyone as efficient mouthwashes. It may aid in overcoming some common dental issues if people can employ and promote such low-cost methods of maintaining oral health that are also free from any unfavourable side effects. Thus, a useful understanding of the typical herbs, plants, and even fruits that are used as mouthwashes. They demonstrate economic effectiveness and lack of negative effects. Herbs have been successfully employed as antioxidants, antiseptics, and analgesics in dentistry. They will boost immunity and hasten the recovery of infections of the mouth. These medications' antimicrobial properties have been discovered to be especially helpful for treating periodontal infections.

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