



A REVIEW ON:HERBAL TOOTHPASTE

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ABSTRACT:

If untreated, periodontal disorders can have a serious impact on one's health. For the treatment and management of disorders affecting the teeth, gums, and oral hygiene, there are a number of traditional herbal medicines. A traditional cure for periodontal issues that is still used is the use of clove oil. The effectiveness of various herbal tooth paste formulations in reducing plaque and gingival irritation was evaluated. Due to their safety and effectiveness in decreasing dental cavities, herbal toothpaste made of natural ingredients is currently preferred by the general population over synthetic formulations based on chemicals. Traditional uses of herbal treatments for their calming properties are well recognised. The primary etiological and starting factor for the onset of gingivitis is dental plaque. Plant-based toothpastes have drawn a lot of attention for their ability to reduce gingival inflammation. Herbal toothpaste that lessens stains, gingivitis, calculus, and cavities, promotes good oral hygiene, and prevents periodontal disease.

KEYWORDS: Herbal remedies, Gingivitis, Dental plaque, periodontal disease, Oral hygiene.

1. INTRODUCTION :

The most popular preventive method for maintaining oral health is using toothpastes. An oral condition with a high prevalence all over the world is chronic gingivitis. Gingivitis is primarily caused by dental plaque, which also serves as its primary etiological and initiating factor. However, due to the limitation of mechanical methods, the use of some safe and efficient medications to prevent gingivitis in toothpaste is also considered to be a good complement to the control of mechanical plaque [1]. The accumulation of dental plaque on teeth is a problem due to both its erosive and pathogenic characteristics. Dental caries, gingivitis, periodontal issues, and halitosis may be brought on by the presence of plaque. Plaque removal and control techniques employ a variety of mechanical aids, such as tooth brushes, dental floss, mouthwashes, and dentifrices [2]. A dentifrice called toothpaste is used to keep teeth clean, preserve their health, and enhance their look. The basic purpose of toothpaste is to keep teeth clean, but it also has abrasive properties that help to remove dental plaque. Due to the presence of active chemical ingredients such polyphenols, gums, alkaloids, glycosides, and other substances, many herbal formulations are very effective [3].

A significant area of regenerative medicine is regenerative dentistry, which focuses on a number of pathologies affecting the mouth and teeth, such as pulpal necrosis and dental caries, as well as bone defects like periodontitis and alveolar bone reabsorption and bone defects like periodontitis and bone reabsorption. All of these specific bone conditions have a direct impact on patients' quality of life and the availability of medical resources. Therapies must target both bone repair and tooth regeneration in order to address these conditions comprehensively [4]. Periodontitis affects the gums and supporting structures of the teeth. Periodontal refers to the gums and bone that support teeth. The most mild form of periodontal disease, gingivitis, is typically brought on by poor dental hygiene. Plaque accumulation can result from poor dental hygiene. Gingivitis is a condition marked by inflamed gums brought on by a range of

triggering factors, including bacterial causes, dyscrasias, avitaminosis, etc. Salivary tartar contributes to these underlying causes of gingivitis in a way that is cumulative. The most frequent reason for adult tooth loss is periodontal disease, which is acknowledged as a major public health issue worldwide. The term "periodontitis" is used broadly to refer to a number of pathological conditions that affect the tissues and supporting structures of teeth. It is crucial to reduce and control dental illnesses since they can have serious consequences. Pain, discomfort, and cosmetic concerns are just a few of the indicators that show how serious the issues linked with tooth diseases are. The goals of periodontal therapy are to treat inflammatory tissue, lessen the amount of pathogenic germs, and remove diseased pockets. Some of the clinical techniques used now include systemic antibiotic treatment, chemotherapy, and mechanical therapy [5].

The majority of people frequently use toothpaste. Usually, toothpaste is used to brush teeth and clean the mouth. Additionally, it is employed to treat a number of dental disorders. To cure diseases like sensitivity and chronic gingivitis, among others, many dentists advise using toothpaste. Maintaining periodontal and oral health requires the efficient elimination of dental plaque. Although it is crucial to use self-care techniques to mechanically regulate microbial plaque in order to stop plaque buildup, this is insufficient on its own. Chemical control of dental plaque is a complementary treatment that might make it easier to remove and stop the buildup of pathogenic plaque, potentially lowering the need on mechanical oral hygiene practises. Therefore, for the best dental health, using both chemical and mechanical plaque reduction is advised [6].

2.COMMONLY USED HERBAL REMEDIES:

There are many all-natural ways to treat periodontal disease, some of which even work to stop it from happening in the first place. The inflammation and infection linked to periodontal diseases can be reduced with the aid of several herbs. The treatment and prevention of periodontal disease largely depend on good oral hygiene, of course. When administered to the gums, aloe vera gel has been shown to soothe gum tissue and ease pain and suffering. Both infection and discomfort are decreased by clove oil. Echinacea and goldenseal have also been found to lessen infection and inflammation. Clove oil is a common treatment for toothaches. In dentistry, a plug of cotton wool soaked in clove oil is used to apply the oil directly to the tooth cavity. In oral care products (including toothpaste and mouthwash), sanguinarine, propolis, Azadiracta indica (neem), charcoal, clove, and miswak are the most often utilised herbal ingredients. In rural South Asian countries, natural remedies like neem twigs, charcoal powder, and others have long been a crucial component of everyday oral hygiene regimens. The anti-inflammatory, antipyretic, analgesic, The immune system is stimulated by echinacea, peppermint oil has analgesic, antiseptic, and anti- antibacterial, antiviral, anticarcinogenic, and antioxidant properties of several herbal or been toutte[1,6]. inflammatory properties, sage and rhatany have anti-haemorrhagic properties, chamomile has an anti-inflammatory effect, myrrh is a natural antiseptic, and echinacea has plant extracts have anti-haemorrhagic properties [7]. Vitamins, enzymes, minerals, fatty acids, amino acids, sugars, carbohydrates, and salicylic acid can all be found in aloe vera. Aloe vera can be used to treat burns, insect bites, and various other skin conditions (in the form of a gel). The volatile oil of sage contains the chemical elements alpha- and beta-thujone, camphor, and cineole. It also contains rosmarinic acid, tannins, and flavonoids. In modern European herbal medicine, gargling with sage tea is widely prescribed to treat gingivitis, sore throats, and oral inflammations. Sage possesses antibacterial, antifungal, and antiviral characteristics, which might contribute to the explanation of why it is so effective in treating these ailments. Menthol (29–48%) and menthone (20–31%), which make up the majority of the 0.1–1.0% volatile oil produced by peppermint leaves, operate as analgesics and alleviate pain.

You can treat toothaches by soaking a cotton ball in peppermint oil and placing it in the cavity or rubbing it on the tooth. The three main elements of myrrh are resin, gum, and volatile oil. According to reports, it has been proven that the resin stimulates macrophages and destroys a range of germs. Astringent properties and an anti-inflammatory action on tongue and throat tissues are also present in myrrh. Myrrh resin's potential analgesic and anticancer properties are still being studied. This rosemary volatile oil, which also includes eucalyptol (cineole), is recognised as a potent antibacterial compound. The bloodroot alkaloids, particularly sanguinarine, are the major active components of bloodroot. They are occasionally found in toothpaste and other oral hygiene products, and are used to treat gingivitis and periodontal disease because they stop mouth bacteria from developing [8].

3.LIST OF PLANT/HERBS USED TRADITIONALLY FOR CARE OF TEETH AND GUMS:

Sr.no	Plant/herb	Scientific name	Chemical constituents	Uses	Reference
1.	Neem	Azadirachta Indica	Nimbidin,Sodium nimbinate	Antimalarial, Antifungal, Antiviral, Antioxidant	[8]
2.	Aloe Vera	Aloe barbadensis miller	Fatty acid, amino acid	Improving healing , painfully erupting wisdom teeth	[9]
3.	Sage	Salvia officinalis	tannins and flavonoids	antibacterial, antifungal, and antiviral activity	[9]
4.	Rosemary	Rosmarinus officinalis	Volatile oil	Antibacterial ,Antifungal	[10]
5.	Peppermint	Mentha piperita	Menthol ,Volatile oil	Relieve gums inflammation	[11,12]
6.	Myrrh	Commiphora molm	Volatile oil ,Resin	Pain relieving, soothing effect mouth and throat	[13]
7.	Echinacea	Purple coneflower	Alkyl amides	gingivitis and periodontal disease	[14,15]
8.	Chamomile	Matricaria recutita	flavonoids, Apigenin,luteolin	anti-inflammatory, antispasmodic	[16,17]
9.	Caraway	Carum carvi	Limonene ,Volatile oil	antimicrobial,antiseptic, expectorant,	[18]
10.	Bloodroot	Sanguinaria Canadensis	Alkaloids	gingivitis and periodontal disease	[18,19]
11.	Thyme	Thymus vulgaris	phenols, Thymol and carvacol	spasmodic coughs	[20]
12.	Clove	Syzygium aromaticum	Eugenol	Analgesic	[21]
13.	Ginger	Zingiber officinale	Gingerol , polyphenols	Antibacterial	[21]

4. PERIODONTAL USES:

To stop a potential development to periodontitis, gingivitis must be prevented by regular and effective supragingival plaque treatment with a toothbrush and dental floss. Despite having the ability to maintain acceptable levels of oral hygiene, clinical experience and population-based studies have revealed that many people do not use mechanical plaque management procedures as effectively as they could. As a result, numerous chemotherapeutic agents have been created to treat bacterial plaque, such as triclosan, essential oils, and chlorhexidine, with the goal of enhancing the effectiveness of routine hygiene precautions. The present issues related to the

widespread abuse of antibiotics that led to microbial drug resistance have boosted interest in plants having antibacterial and anti-inflammatory activities [22].

Numerous herbal products and natural items, including *Astronium urundeuva*, *Calendula*, *Aloe vera*, and *Curcuma zedoaria*, have undergone testing with positive outcomes. In order to stop the development of caries or bacteria, a variety of antimicrobial agents and herbal items are added to dentifrice and mouthwash. Parodontax® (GlaxoSmithKline, Middlesex, UK) has undergone extensive testing in dentistry and is one of the herbal products now on the market. The following herbal items are also present, in addition to sodium bicarbonate and sodium fluoride (1,400 ppm): *Matricaria chamomilla* (Asteraceae) has anti-inflammatory properties that reduce gingival inflammation; *Echinacea purpurea* (Asteraceae) boosts immune response; *S. officinalis* (Lamiaceae) has antihemorrhagic properties; *Commiphora myrrha* (Burseraceae) has natural antiseptic properties; and *M. Piperita* (Lamiaceae) has analges[22].

They came to the conclusion that individuals with periodontal illnesses could use the mouthwash as a daily supplementary method to lessen gingival inflammation. In this regard, medicinal aloe, bloodwort, neem trees, mustard trees, pomegranates, and Indian gum trees are among the phytomedicines that are frequently being studied[22].

5.CONCLUSION:

This herbal toothpaste performs a significant role in maintaining oral hygiene, avoiding dental cavities, and is safer with fewer negative effects than synthetic toothpaste made with chemicals. All commercially available herbal toothpaste and laboratory-produced toothpaste had been assessed and compared to the requirements laid out by the Bureau of Indian Standards. Both herbal-based dentifrices lessen gingival irritation and plaque buildup. However, it did not change the saliva's pH. The Parodontax® toothpaste did not, however, offer any extra advantages over the Colgate® Herbal toothpaste. Both herbal toothpaste had no traces of nicotine or similar substances.

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