



DEVELOPMENT & EVALUATION OF HERBAL MOUTHWASH FOR ANTIBACTERIAL POTENCY AGAINST ORAL BACTERIA

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ABSTRACT

To get rid of oral pathogens, one uses a mouthwash, a medicinal liquid that is held in the mouth and swished around by the perioral muscle. The Indian and Chinese systems of medicine are credited with the first reports of the use of mouth rinse. In vitro and in vivo tests on a variety of herbal mouthwashes and extracts have been conducted in an effort to find a viable long-term complement to mechanical therapy. The goal of this study was to examine the antibacterial impact of herbal mouthwash on a variety of microorganisms. The primary goals of using mouthwash are to maintain proper oral hygiene at home on a regular basis. Mouthwash provides antimicrobial activity & it is used prior to and after oral surgery procedures such as tooth extraction as prophylaxis. Natural remedies for oral health issues like bleeding gums, halitosis, mouth ulcers, and avoiding tooth decay without side effects, including spinach, neem, tulsi, and many others, have been scientifically confirmed to be safe and effective. Tulsi is an effective remedy for gum disease due to its anti-inflammatory and anti-infectious qualities. Chewing of tulsi leaves helps clear ulcers and infections of the mouth. Herbal mouthwashes are in high demand since they are less likely to have negative effects, work on oral infections, and rapidly reduce discomfort.

Keywords: Herbal mouthwash, Natural herbs, Oral hygiene, Antibacterial activity.

INTRODUCTION

More than 500 different bacterial species can be found in dental plaque, a complex biofilm that builds up on the surface of teeth. The dental plaque is produced by initial colonizing bacteria in the salivary film of enamel, followed by secondary colonization through antibacterial adhesion¹. Ancient Egyptians are known to be responsible for the first artistic drawings that emphasize the importance of beauty and hygiene. It was believed that an unclean body was impure Pedanus Discorides. A Greek physician and surgeon whose writings served as a medical textbook, suggested for treatment of bad breath a mouthwash mixture of the following: a decoct of the leaves of the olive tree, milk, the juice of pickled olives, gum myrrh with wine and oil, pomegranate peelings, nutgalls, and vinegar². Their final products cause the beginning of tissue deterioration and loss of alveolar bone.

Plaque biofilm will alter in both amount and composition as a result of effective plaque control strategies. Brushing teeth mechanically entails utilising a manual brush, a motorised toothbrush, or a pressurised water pump device that uses water under pressure pumped via a small, blunt needle or nozzle (irrigation both sub gingival and supragingival irrigation). Plaque, a sticky film of germs and food that collects on teeth, can be avoided by maintaining good dental hygiene. Plaque control is utmost essential for the suppression of gingivitis, dental caries, and halitosis-causing microorganisms³. Up until now, many well-known herbal remedies have been utilised in addition to other oral hygiene practises like brushing and flossing to control tooth plaque and gingivitis. Chemical therapeutic agents like mouthwashes, sprays, chewing gum, and varnishes are additional methods of plaque management that support efficient at-home treatment. Radiotherapy plays an important role in the treatment of locally advanced head and neck cancer⁴. Herbal Mouthwashes are in high demand, because they act on oral pathogens and relieve the pain instantly and are also less side-effective. Chemical mouthwashes have hydrogen peroxide and chlorhexidine as an immediate whitener, steriliser and pain reliever of teeth, but they tend to produce discoloration of teeth and may produce side effect, meanwhile they are cost effective. Many plant extracts have anti-microbial properties that can be used to efficiently maintain healthy dental hygiene. Natural herbs such as Triphala, Tulsi-Patra, Jyestiamadh, Neem, Clove Oil, Pudina & many others are used as single or in combination have been scientifically proven to be safe and effective medicine against oral health problems such as bleeding gums, halitosis, mouth ulcers, and preventing tooth decay without side effects.⁵ Using the natural mouthwash in conjunction with the brushing and flossing is a great way to reduce oral bacteria and even maintain the optimal oral health and hygiene.⁶ In dentistry, chlorhexidine, which was created in 1950, is still regarded as the most powerful anti-plaque agent. Many of the plant extracts has an anti-microbial property which is effectively used in maintaining good oral hygiene.⁷ The main benefits of using mouthwash are that it can be used routinely at home to maintain good oral hygiene, that it has anti-inflammatory and anti-microbial properties, that it is used as prophylaxis before and after oral surgery procedures like tooth extraction, that it helps to freshen the mouth and reduce bad breath, and that it kills all germs that toothpaste has not been able to kill.⁸ Plaque is the primary cause for gingivitis. Most of the chemical products contain an antiseptic that plays an important role in controlling plaque accumulation.⁹ Mouthwashes are widely used solutions due to their ability to reduce the number of microorganism the oral cavity.¹⁰

MATERIAL AND METHOD

Collection Of Plant

Leaves of Azadirachta Indica (Neem), Tulsi and Peppermint were purchased from the local market and chemicals from the collage lab.

Extraction Process

To prevent chemical deterioration brought on by sunlight, drying in the shade was done for over a month. Via the use of a grinder, the dried material was ground into a coarse powder. The unprocessed powder was microwave-extracted with ethyl acetate after being defatted. The drying took place in the shade for more than a month to prevent chemical deterioration caused by sunlight. The dried material was processed into a coarse powder using

a grinder. Maceration extraction should be used for extraction. The crude drug should be extract with the 3-4 drops of chloroform under the observation of 24 hour. The excess solvent present was evaporated.

CONCLUSION

For oral hygiene, mouthwash is a liquid accessory used to clean and maintain the health of our teeth. In-vitro and in-vivo tests on a variety of herbal mouthwashes and extracts have been conducted in an effort to find a viable long-term complement to mechanical therapy. The formulation's pH was discovered to be 6.1. The formulation's pH range is suitable for oral diseases. This mouthwash is purely herbal without adding any kind of alcohol and any other additives as other products found in the the market. Combining daily brushing and flossing with antimicrobial mouthwash ingredients including spinach, neem, and tulsi plant extracts has been shown to reduce plaque and gingivitis. The zone of inhibition results further supported the findings that this herbal mouthwash was a powerful plaque inhibitor. Patients favoured it for its taste, ease of use, and test duration in the mouth after washing. Thus, these can be used as an adjunct to mechanical therapy for treating plaque induced gingivitis. Present study has an important impact in order to create an effective and inexpensive herbal oral health intervention for low social economic communities. However this study was short-term study so long term studies are required with larger. The natural herbs used in present formulation have been medicinally proven to prevent the problem of oral hygiene and bad breath. Since years and decades, these herbs have been known for working wonders as reflected in many research findings. Person can easily rinse his mouth using this herbal mouthwash and stay clear of wide variety of oral health issue.

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