



# SRI SAI COLLEGE OF PHARMACY, BADHANI, PATHANKOT

## ARTICLE - HERBAL MOUTHWASH

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### Abstract

The goal of this study was to investigate the antibacterial impact of herbal mouthwash on variety of microorganisms. The major benefit of mouthwash was that it may be used at home as part of a region to maintain excellent dental hygiene. Mouthwash also has antibacterial properties. It was used for prophylaxis before and after oral surgical treatment such as tooth extraction. Mouthwash used for to clean the mouth after brushing. Natural herbs like neem, tulsi, aloe vera, among others, have been proven to be a safe and efficient treatment for oral health issues like bleeding gums, halitosis, mouth ulcers, and tooth decay prevention. As mouthwash, it is useful against bad breath and for maintaining healthy gum.

**KEYWORDS:** Neem, peppermint, spinach, tulsi.

### INTRODUCTION:

Mouthwash can be defined as a medicated fluid which is used for cleansing the oral cavity and treating mucous membrane of the oral cavity mouth. It might also help to softening of surface and elevated close to dental resins and composite. Mouthwash is an aqueous solution which is often used for its deodorant, refreshing and antiseptic properties or for control of plaque. Maintenance of oral hygiene is imperative the buildup of plaque, a sticky film of bacteria and food that accumulate on teeth. Many herbal product have helped to control dental plaque and gingivitis and they have so far been used as adjunct to other oral hygiene measures such as brushing and flossing[1].

Usually, mouthwash is an antiseptic solution which is supposed to reduce the microbial load in the cavity, although there are other reasons such as for their analgesic, anti-inflammatory or anti-fungal action. Mouthwash is most commonly used at home as part of an oral hygiene anti cavity mouth rinse, which contain fluoride, which protects teeth from decay. Some natural products are effective as an adjunct in improving the oral health[2].

Improper maintenance of oral hygiene is one of the main reasons for the accumulation of plaque growth brushing the teeth routinely is the main mechanical method of removing plaque and reduce the risk of dental disease. Dental disease is a complex of biofilm that adheres on the surface of the teeth. A painless hyperemia of the gums known as gingivitis typically results in easy or spontaneous bleeding after brushing the teeth. Herbal mouthwash usually do not contain alcohol or any added sugars or preservatives[3].

Dental plaque is a complex biofilm that accumulates on the surface of teeth, containing more than 500 bacterial species. Prenominal diseases affect the supporting tissues of teeth. A Pain hyperemia of the gums known as gingivitis typically results in easy or spontaneous bleeding after brushing the teeth. Gingivitis is characterized by inflammation and bleeding of the gum. Gingivitis, is typically brought on by poor dental hygiene is plaque that forms on the surface of teeth and gums. As a main stay of maintain oral hygiene, mechanical plaque control measures are used. The artificial drugs have unpleasant side effects, so researchers are trying to pay more attention to herbal drugs. Plants and plant's isolates demonstrates effects that are immune enhancing, anti-inflammatory, anticancer etc[4].

To overcome such problems, the WHO has advised researcherers to investigate the possible use of natural products in the management of infection. various kinds of mouthwashes have evolved following oral hygienical problems. Moreover, mouthwash also contains some ingredients that serve as digestive aids. Mouthwash can be chemical or herbal in nature. Nowadays, we use commercial mouthwash which contain many chemical compounds like sodium lauryl, sulfate, thymol, methyl, salicylate, hydrogen peroxide, alcohol which are harmful to our buccal cavity[5].

We have developed a mouthwash with some common food materials and herbs and which can replace costly chemicals like alcohol, colouring agents and preservatives making our mouthwash economically more viable than commercial mouthwash. A herbal mouthwash preparation is developed using the extracts neem, tulsi, aloe vera etc, in sterilized condition having anticancer, antibacterial properety. Herbal mouthwash are in high demand, because they act on oral pathogen and relieve the pain instantly and are also less side effective[6].

Herbal mouthwash play major role to prevent, relieve and cure oral conditions and maintain oral health (such as: Dental caries, dental erosion, halitosis, gingivitis, periodontitis, to reduce the oral microbiota).

## PREPARATION AND EVALUATION

The collection of plants and extraction process were selected for developing a herbal mouthwash formulation.

- Leaves, bark, and stem of *Azadirachta indica* (Neem), flowering part of *Mentha piperita linn* (Peppermint), dried leaves of *ocimum tenuiflorum* (Tulsi), leaf of *spinacia oleracea l* (spinach) were randomly collected from mature plants.
- The collected plants materials were washed with sterile water, shadow dried, pulverized and stored in air tight bottles separately.
- The aqueous extract of each plant material was prepared by soaking the powdered plant parts in sterile

distilled water and maintained in incubator at 37 degree celcius for 72 h. The herbal extracts were filtered using Whatmann filter paper, marc was washed with 10ml of sterile distilled water and passed.

- The extract ingredient are mixed in a fixed ratio 4ml of spinach, 2ml of neem extract, and 2ml of tulsi extract were dissolved in distilled water and add peppermint then methyl paraben as preservative and add distilled water to make quantity sufficient for 10ml.

## EVALUATION PARAMETERS

**Colour and odour** - Physical parameter like odour and colour were examined by visual examinations.

**pH** - pH of prepared herbal mouthwash was measured by using digital pH meter. The pH meter was calibrated using standard buffer solution about 1ml of mouthwash was weighed and dissolved in 50ml of distilled water and its pH was measured.

**Test for microbial growth in formulated mouthwash** - The formulated mouthwash was inoculated in the plates of agar media by streak plate method and a control was prepared. The plates were placed in the incubator and are incubated at 37 degree celcius for 24 hours. After the incubation period plates were taken out and checked for microbial growth by comparing it with the control.

**Stability Studies** - The formulation and preparation of any pharmaceutical product is incomplete without proper stability studies of the prepared product. This is done in order to determine the physical and chemical stability of the prepared product and thus determine the safety of the product. A General method for predicting the stability of any product is accelerated stability studies, where the product is subjected to elevated temperature as per the ICH guidelines. A short term accelerated stability study was carried out for the period of 3 months for the prepared formulation. The samples were stored at under the following conditions of temperature as 3-50 C, 25 C RH=60%, 40 C  $\pm$  2% RH= 75%. Finally the samples kept under accelerated study were withdrawn on monthly intervals and were analyzed.

**Viscosity** - The state of being thick, sticky, and semi- fluid in consistency, due to internal friction.

**Taste** - The taste based on sweetness and sourness.

**Antibacterial assay** - Inoculate all the six formulated mouthwash in the different plates of agar media by streak plate method and prepare a control. Place the plates in incubator and incubator at 37 degree celcius for 24 hrs. After the incubation period take out the plates and check microbial growth in all the plates.

**Physical stability** - This test included recording the visual appearance, physical separation and homogeneity of the formulated mouthwash. The different mouthwashes then kept in different temperature, 12 degree celcius and 25 degree celcius and the appearance is then checked in different temperature and the result was recorded.

## CONCLUSION

An attempt has been made to outline some of the commonly available herbs and plants, which are readily available and can be used as effective mouthwash by all, If people can use and promote such cost effective

measure of maintaining the oral health which are also devoid of any untoward side effects, it may help in overcoming some common dental problems. Herbs which are powerful healing agents, must be used appropriately. The use of herbs in dentistry should be based on evidence of effectiveness and safety. They will improve the immunity and help in healing of oral infections.

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