

Formulation of Medicated Chewing Gum

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Abstract: Mouth is the important part of our body. It effects among the systems just like Digestive system, Respiratory system. So it is necessary to keep its environment healthy as well as clean. Much disease such as cavity, mouth ulcer and bad breath occurs in mouth. The purpose of this work is to keep mouth's environment in balanced state with least side effect

Keywords: Anticavity, antimicrobial, antioxidant, breath freshener, chewing gum.

1. Introduction

The purpose of this work is to keep mouth's environment in balanced state with least side effect. Hence we have formulated Medicated chewing gum. Our formulation contains Active Pharmaceutical ingredients as *Ocimum tenuiflorum* (Tulsi) and *Zingiber officinale* (Ginger). Gum Base is made up of Sapodilla Chicle. Flavoring agent is Peppermint (Pudina). Both API have antimicrobial activity, reducing power, Ability to Precipitation of protein, breath freshener. Due to their good activities we have formulated them in Chewing Gum which is new way to drug delivery system. As the chewing gum is easy to use, carry and main thing is that it tastes good! Goodness of our formulation is that it's 100% natural and free from any side effect.

2. Ingredients

A. Active ingredients

Ocimum Sanctum (Tulsi)

Tulsi is cultivated for religious & medicinal purpose. Tulsi is one of the commonly used in Ayurveda. This plant is referred as elixir of life. Tulsi is mentioned in CHARAK SAMHITA as adaptogen, astringent as well as antimicrobial

- **Chemical constituents:** Oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, β-caryophyllene (about 8%), β-elemene (11%), germacrene (2%)
- **Activity:** Tulsi has broad-spectrum activity, which includes activity against *Streptococcus mutans*, the organism responsible for tooth decay, further suggests that it can be used as a herbal mouth wash for treating bad breath, gum disease and mouth ulcers. This has been confirmed in clinical trials that have demonstrated that rinsing with tulsi is as effective as 0.2% Chlorhexidine and Listerine in reducing the

levels of *Streptococcus mutans* and that a herbal mouthwash that includes Tulsi is preferred for its taste and convenience.

B. *Zingiber officinale* (Ginger)

Is a flowering plant whose rhizome, ginger root is widely used as spice as well as folk medicine. Ginger is stimulant and has beneficial activity towards nausea as well as mild antimicrobial activity.

- **Chemical constituents:** Zingiberol, gingerol,
- **Activity:** One of the many health claims attributed to ginger is its purported ability to decrease inflammation, swelling, and pain. Gingerol-enriched extract were each reported to exhibit analgesic and potent anti-inflammatory effects. Data suggest that ginger may exhibit anti-inflammatory effects through the modulation of calcium levels mediated through transient receptor. The most common and well-established use of ginger throughout history is probably its utilization in alleviating symptoms of nausea and vomiting. The effectiveness of ginger as an antiemetic has been attributed to its carminative effect, which helps to break up and expel intestinal gas.

C. Pepper mint

Mint, scientifically known as menthe (*Mentha spicata*) is a herb with remarkable medicinal properties. Being a germicidal agent and breath freshener, it takes care of oral health by inhibiting harmful bacterial growth inside the mouth and by cleaning the tongue and teeth

- **Activity:** Peppermint has been used as a natural breath-freshener for centuries. Extracted from peppermint, the oil is an easy, inexpensive but highly effective essential oil due to its anti-bacterial and antifungal properties that you can use if you suffer from halitosis.

D. Chewing gum base

- **Sapodilla Chicle:** The chicle is polyterpenes composed of thousands of C₅H₈ isoprene subunits. They are found in the milky latex sap produced inside special cells called laticifers or laticiferous tubules in the secondary phloem. Ninety percent of all natural rubber comes from the latex sap of this species.

Table 1
Composition of gum

Ingredient	Quantity	Use
Ocimum sanctum (Tulsi)	100mg	Anti-Microbial, Astringent, Breath Freshner
Zingiber officinale (Ginger)	50mg	Stimulant, Mild Antimicrobial Activity Flavouring Agent
Pepper Mint (Pudina)	75mg	Breath Freshner

3. Purpose

Change in pH, microbial activity, bad breath, cavities, ulcer occurs in mouth. Medicated chewing gum maintenance the environment in equilibrium.

4. Mechanism of action

We chew the chewing gum the active ingredient Interact with the saliva of the mouth which is previously acidified due to meal. Due to their reducing action the acidified saliva becomes in normal saliva pH. Many cavity causing microbes are present in mouth & many of them rest on teeth. Anti-microbial activity prevents the growth & destructs them. Papper mint neutralize the bad odour of mouth. Healing power of tulsi decrease the chances of ulcer.

5. Advantages

It contains all herbal ingredients which are free from side

effect as well as easy to carry.

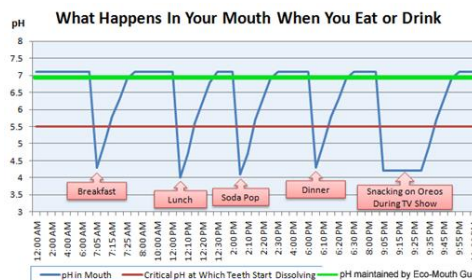


Fig. 1. Effect of medicated chewing gum after administration

6. Conclusion

Eco-Mouth gum is the best way to prevent many disease such as cavity, mouth ulcer, bad breath and harmful bacterial activity occurs in mouth.

References

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