

Formulation and Evaluation of Herbal Lozenges Using Amla and Clove for Immunity and Sore Throat Relief

Mrs.Prajakta Patil* , Miss.Vaishnavi Sonawane*

Assistant professor, SMBT Institute of Diploma pharmacy, Affiliated to MSBTE

Student of SMBT Institute of Diploma pharmacy, Affiliated to MSBTE

Maharashtra, India -422001

Corresponding Author,

Ms. Prajakta C. Patil

Abstract

Herbal Lozenges are one of oral dosage types that contain herbal extracts like Amla, and clove Ingredients. Lozenges are Solid Preparation Consisting jaggery and gum facilitating medicament. Lozenges are sugar-type base that is formed or, which can dissolve in any available liquid. Disintegrate Slowly on mouth. The used for development humanity boosting Amla (Indian gooseberry) Antioxidant and Anti-inflammatory. Content herbal lozenges. Clove (*syzygium ammaticum*). Cloves boost human health through their rich antioxidant and antimicrobial properties, which support immunity and fight infection. They also improve digestion, support cardiovascular and bone health, and have anti-inflammatory effects that can help with pain relief.

Keywords: Antioxidant, Anti-inflammatory, Antimicrobial, Disintegration, Friability.

Introduction

Humanity boosting, including conditions like sore throat. Herbal lozenges have emerged as a popular and effective option for soothing throat infection, offering a natural and holistic approach to managing these conditions. Throat infections affect individuals of all ages, and their prevalence can be attributed to various factors, including viral or bacterial pathogens, environmental irritants, or weakened immune systems. Lozenges historically have been used for the relief of minor sore throat pain; irritation and humanity boosting have been used for lozenges. The majority of the lozenge formulations can be purchased as over-the-counter medications. Lozenges offers a bio-delivery system for drug administration and It has several enjoyments in the pharmaceutical market owing to it advantages During COVID-19, These herbal lozenges containing amla and clove can also act as supportive therapy as they improve immunity, relieve throat irritation along with being a good source of antioxidant and anti-inflammatory propertie. Medicinal lozenges also use Brahmi, tulsi, liquorice etc. All these ingredients can work together to relieve sore throat and mouth irritation temporarily. Others may include vitamins, herbal extracts or other natural products. Non-narcotic Lozenges are typically dosed very simply, by placing one tablet under the tongue for it to dissolve. Which may be beneficial to support general health and wellbeing due the immune system boosters. Herbal lozenges may be more or less effective depending on several things, including. Depending on the doctor, there are all sorts of factors that affect them things like the doctor's certificate of used ingredients severity and type of illness.to be treated. Furthermore, as with any natural remedy, it is always best to consult a health care provider before treating treated a health condition with herbal lozenges.

Type of lozenges

1. **Hard Lozenges:** These lozenges have a firm and rigid consistency, designed to slowly dissolve in the mouth, allowing the release of herbal extracts that may have soothing, anti-inflammatory, and healing effects on the affected oral tissues.

Example: Lollipops.

2. **Soft lozenges:** These lozenges are designed to dissolve or disintegrate slowly in the mouth, allowing the release of herbal extracts with therapeutic properties to soothe, heal, and alleviate discomfort associated with mouth ulcers.

Example: (Bentasil)

3. **Chewable Lozenges:** These lozenges are meant to be chewed rather than let dissolve slowly. They're made using a mix of gelatin, glycerin, and water. You can add medicine, acacia, and the right flavors and sweeteners to this base. Unlike hard or soft lozenges, they release active ingredients more quickly. Both kids and older folks tend to like them. They're often used to help with coughs or soothe the throat.

Advantages

1. **Natural Ingredients:** Herbal lozenges use natural stuff, so they don't have any artificial chemicals or additives.
2. **Easy to Buy:** You can find lots of herbal lozenges without a prescription, making them simple to get.
3. **Handy and Portable:** Lozenges are easy to carry around and offer quick relief whenever you need it.
4. **Multi-Purpose:** You can use lozenges for different things, like easing a sore throat, cough, or dry mouth.
5. **Calming Effect:** Many lozenges have menthol or honey to soothe the throat and ease discomfort.
6. **Suitable for Patients:** They're good for people who have trouble swallowing.
7. **Simple for Older Adults and Kids:** Lozenges are easy for both older adults and children to take.

Disadvantages

1. **Short-term help:** Lozenges often only provide brief relief and might not solve what's causing your symptoms.
2. **Not ideal for all:** Herbal lozenges might not work for everyone, like pregnant or breastfeeding women, or people with some health issues. It's a good idea to check with a doctor before using them.

Pharmacognostic Plant Profile of Herbal Drugs-

Amla (Indian gooseberry):

Is from the family Phyllanthaceae. It has high Vitamin C and antioxidants content. It serves as an immunomodulator, anti-inflammatory agent, and antimicrobial compound. Amla is the most active constituent in herbal lozenges that helps to enhance immunity and protect sore throat and infections.



Clove (*Syzygium aromaticum*):

Is from family Myrtaceae. Clove is rich in eugenol, an active compound with antimicrobial, anti-inflammatory, and analgesic properties. Clove is also used as one of the main active ingredients in herbal lozenges for throat relief, infection inhibition and immune support.



(Brahmi *Bacopa monnieri*):

Is a member of Plantaginaceae family. It includes active substances known as bacosides that are thought to have antioxidant and immunomodulatory effects. Brahmi is an active ingredient in herbal lozenges that serve as beneficial protective immunity support.



Liquorice root (*Glycyrrhiza glabra*) :

It has an active compound, glycyrrhizin, which provides anti-inflammatory, antimicrobial and soothing effects. Liquorice root is one of the active ingredients termed as demulcents and soothes sore throat, relieves irritation associated with cough in herbal lozenges, boosts immunity.



Tulsi (*Ocimum tenuiflorum*):

Tulsi belongs to the Lamiaceae family. Compounds like eugenol and flavonoids provide antimicrobial, anti-inflammatory, and immune-boosting benefits. In herbal lozenges, tulsi is a key ingredient that helps boost immunity, soothe throat irritation, and relieve coughs and sore throats.



Mint (*Mentha piperita*):

is a member of the family Lamiaceae. Menthol is a major active constituent, which has cooling, soothing and mild antimicrobial effects. Mint is also used in herbal lozenges as a supportive component to alleviate the throat redness, and provide freshness while contributing to acceptability of patients.



Gum acacia:

Also known as gum arabic is a natural plant gum sourced from the sap of *Vachellia nilotica*, which belongs to the family Fabaceae. Binder/thickener: It is a polysaccharide. Gum acacia is the binding agent used for herbal lozenges to ensure proper shape, hardness, and stability of the formulation.

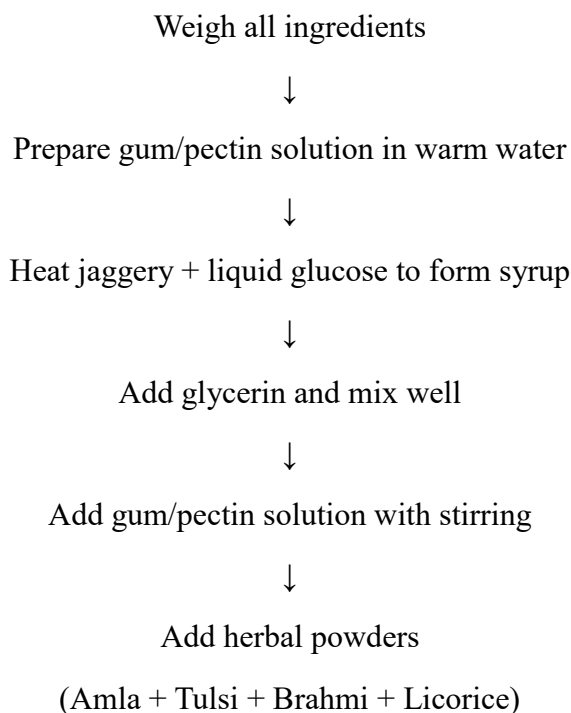


Material and Method

Sr. No.	Ingredient	Quantity (g)	Category	Function
1	Jaggery	62 g	Excipient	Sweetening agent
2	Liquid Glucose	8 g	Excipient	Sweetener, prevents
3	Gum/Pectin	10 g	Excipient	Binding/Gelling agent
4	Brahmi	6 g	Active	Immunity booster
5	Tulsi	6 g	Active	anti-inflammatory
6	Liquorice Root	4 g	Active	Soothing, anti-cough
7	Natural Flavor (Mint)	0.5g	Excipient	Flavoring agent

Preparation of Herbal Lozenges-

Preparation of Herbal Lozenges



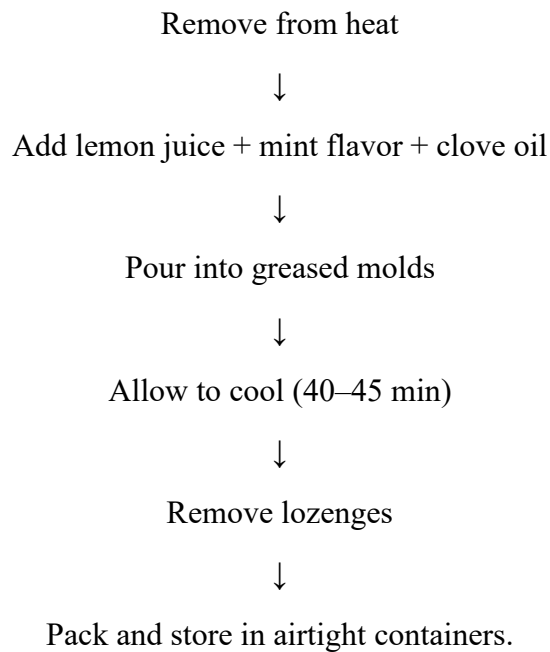


Fig- Prepared lozenges in mould-



Conclusion :- Herbal lozenges such as these are a safe and effective natural alternative for cough and sore throat relief. Amla, clove, mint and jaggery combine antioxidant and anti-inflammatory effects for symptom relief. And while promising for respiratory wellness, research is still required for dosage and function.

Result:-

The preparation was formulated and evaluated and was found to be satisfied with all the required characterization.

References:-

1. Kumar S, Rathaur H, Mukhopdhyay S. Formulation and Evaluation of Herbal Lozenges of Vasaka Leaf for the Treatment of Sore Throat. Archives of Current Research International. 2025;25(6):229–237. DOI: 10.9734/acri/2025/v25i61266
2. Mishra KK, Tasneem K, Jain V, Mahajan SC. Formulation and Evaluation of Herbal Lozenges. Journal of Drug Delivery and Therapeutics. 2017;7(7):87–90.

3. Oberai S, Chauhan R, Mishra R, Gaur PK, Singh R. Formulation and Evaluation of Herbal Lozenges. *Research Journal of Pharmacy and Technology*. 2025;18(9):4415–4419. DOI: 10.52711/0974-360X.2025.00633
4. Jige VS, Vyas GV, Khendke AD. Formulation and Evaluation of Herbal Cough Lozenges. *EPRA International Journal of Research and Development*. 2024;9(4).
5. Waghmare R, Khan K. Preparation and Evaluation of Herbal Cough Lozenges: Corid-Cough Pearls. *International Journal of PharmaO2*. 2020.
6. Verma M, Chaudhary A, Chauhan I, et al. Formulation and Evaluation of Vasaka Lozenges for Cough and Sore Throat. *Current Indian Science*. 2026;4. DOI: 10.2174/012210299X422378251202061002
7. Gawande NS, Muthal PV, Bhojar SR, et al. Formulation and Evaluation of Polyherbal Lozenges. *IJIRCT*. 2024;10(4):1–
8. Desai K, Kataria M, Talavia A, Goyal RK. Formulation Development and Evaluation of Herbal Lozenges for the Treatment of Recurrent Aphthous Stomatitis. *International Journal of Research in Pharmacology & Pharmacotherapeutics*. 2021.
9. Raut SH. A Single-Blind, Randomized Clinical Study of THROZEN (Cough Lozenges Formulation) for the Treatment of Sore Throat and Cough. *Journal of Clinical Trials*.
10. Qaralleh HA, et al. Antibacterial and Antibiofilm Activities of a Traditional Herbal Formula Against Respiratory Infection Causing Bacteria.
14. Indian Pharmacopoeia (IP), Government of India, Ministry of Health and Family Welfare.
15. Kokate CK, Purohit AP, Gokhale SB. *Pharmacognosy*. Nirali Prakashan.