

Formulation and Evaluation of Herbal Lip Balm Using Natural Ingredients

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Abstract—Lip balm is one of the most frequently used cosmetic items. Cosmetic plays an important role in today's life style. Along all cosmetic products, Natural lip balm preparations are most widely used to increase the beauty of lips and add glamour touch and shine to the beauty. Chemical-based lip balm, for example, has adverse effects and has a short-term hydrating effect.

As a result, we develop a novel lip balm concept that not only contains herbal elements to decrease negative effects, but also maintains the moisturizing effect throughout time. The concept behind our product is a long-lasting moisturizing herbal lip balm containing honey, hyaluronic. Lip balms provide a natural way to promote healthy and moisturized lips Coloring lips is the ancient practice to increase the beauty of lips and to give shine to the face

Index Terms—Lip balm, Herbal, Moisturizer, Cosmetic, Beet Root, Natural

I. INTRODUCTION

Cosmetics play an important function in today's standards of life. 1 Herbal lip balm is a type of lip balm made from natural herbs and ingredients Lips have no oil organs; accordingly, it is truly critical to give that additional dampness and insurance over the course of the day. Regular lip salve frequently contains petrolatum, manufactured waxes, alumina, paraben, hydrogenated oils and fake scents and tones which are harmful. Frequently the lip analgesic is eaten by the client, in this manner it becomes significant issue for wellbeing regulator. Cosmeceuticals are the fixings that have restorative properties that benefits effective activity and furthermore give insurance against degenerative skin condition.

Herbal Lip Balm is a natural cosmetic product made from plant-based ingredients that help moisturize, nourish, and protect the lips from dryness, cracking, and environmental damage Products used to safeguard lips as opposed to improve them are well known as lip emollients. They structure a discipline, dampness safe film of slick substances. For the most part with practically A classic and well-liked vegetable in many regions of the world, including Bangladesh, is beetroot. It is the part of the beet plant called the taproot. The primary crop used for commercial purposes in Europe is beetroot, which is also a crucial part of the DASH (dietary methods to control hypertension) and Eastern and Central European diets. In addition, they are also utilized as a natural food coloring source; the food coloring that is taken from red beetroot is referred to as "red beetroot." In addition to being used as safe, natural food coloring, betaines are becoming more and more well-known for potential health advantages for people, particularly for their antioxidant and anti-inflammatory properties.

II. LITERATURE REVIEW

1. Chaitanya Dnyaneshwar Gholap (2023):
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Cosmetics play an important role in today's lifestyle. Furthermore, the current trend is to go green in most industries, including cosmetics, towards a more natural lifestyle. Better options are natural foods, herbal medicines and natural cures for healthy living. There is also strong demand for organic plant products. The use of herbal cosmetics has been increased many times in the personal care system. This can be

observed Jelly lipsticks, lip balms, lipsticks are marketed with hundreds of Colors to meet the needs.

2. MS. Sonawane Sudha Bhagwan (2024)

Published in International Journal of Pharmaceutical Research and Applications Volume 9, Issu ISSN: 2456-4494

Anatomy of lips: The upper lip lies between the nose and the opening of the oral cavity. Along the side the lips are isolated from the cheeks by the nasolabial grooves that stretch out from the nose and pass around 1 cm parallel to the points of the mouth. These notches or overlap are simpler to see while grinning. The upper lip has an infranasal discouragement, the philtrum (Greek for adoration fascinate), that stretches out from the outside nasalseptum, isolating the nostrils, to the vermilion boundary - the sharp division between the shaded edge of the lip and encompassing skin.

3. Nitin Babasaheb Kakde (2025)

Published in IJRTI2505299 International Journal for Research Trends and Innovation. ISSN: 2456-3315

Cosmetics are made with biologically active chemicals that mimic the effects of drugs or medical treatments. Research was done on the formulation, design, and quality of lip balm created with natural substances. Rose Oil, honey, vitamin E, and other components were used to make the lip balm used in this study. It was made using the homogenous mixing method. A glass slide was used to test the lip balm's formulation. Lip balm was evaluated based on a number of factors, including spread ability, pH melting point, and chemical stability.

III. MATERIALS AND METHODS

1. Base:

Beeswax: Beeswax is used in lip balms, lip glosses, hand creams, ointments, and moisturizers. and in cosmetics such as eyeshadow, blush and eyeliner. Beeswax is also an important ingredient in mustache and hair waxes, making hair smooth and shiny. Typically, beeswax is used in makeup products because it is a natural emulsifier, allowing liquid and oily makeup ingredients to bind and hold. It increases the thickness of solid products like lipstick, giving them structure, and the keeps them solid for smooth application.

2. Oils:

a) Castor oil:

One of the benefits of castor oil for lips is that it might go about as a characteristic boundary that keeps water from getting away from your lips, thus keeping your skin from chipping or drying.

b) Sesame oil:

It can speed the mending of sun related burns, breaks, injuries, and wounds Sesame Oil's compelling cell reinforcement and hostile toprovocative properties help to accelerate recuperation time and have moreover been demonstrated to animate collagen creation at the site of the injury.

c) Rose oil:

Saturate Your Lip Keeping your lips hydrated involving rosehip oil will help with keeping them full and lessening the appearance of kinks. Rosehip oil is significant for keeping up with lips smooth and youthful. Flexible lips: With a swipe of rosehip oil, meager, dry lips arise as stoutand saturated, giving you a definitive celebrity frown! A few lip gleams guarantee to full your lips, in any case, saturating them consistently is a mind-boggling strategy to keep up with your lips looking youthful and graceful.

3. Vitamin E:

Vitamin E is a cell reinforcement and a characteristic conditioner. Vitamin E assists with keeping up with the delicate, more youthful surface of the lips by bringing down the indications of maturing^[14]. Effective vitamin E oil might be utilized to lighten dried, dry lips. Since vitamin E advances cell turnover and recovery, its use of it on dry lips carries new cells to the surface quicker. The thick and sleek consistency of vitamin E oil can likewise prevent comparative disturbance.

4. Flavoring Agent:

The term "flavour" describes a variety of senses, including taste, touch, smell, sight, and sound, all of which are influenced by physiological and physiochemical processes that affect visual acuity. More inventive or imitation flavors have been produced as a result of the flavour industry's technological advancements.

a) Honey:

Honey is a characteristic humectant, and in view of this that it draws in and holds dampness, keeping your lips hydrated over the course of the day. Honey additionally has mitigating properties to assist with

alleviating dried lips. Honey's antibacterial properties additionally help to forestall contamination assuming that the lips become broken. It has been reported that honey can facilitate removing necrotic tissues, increase the granulation and epithelialization speed, and reduce scars.

5. Coloring Agent:

Colorants, also known as color agents, are frequently used to give cosmetic items a unique appearance. Cosmetics have been using the color for a long time. Essentially, the three senses sight, touch, and smell determine the urge to purchase a cognitive product.

Beetroot:

Beetroot on lips assists in getting with freeing of hazier lips making your lips more splendid and lighter. Likewise, the pink shade of beetroot adds a hint of pink to your lips. Beetroot gives incredible sustenance to your lips. It recuperates dry and dried out lips and goes about as the best normal cream for your lips.



IV. FORMULATION

Table. 1. Formulation

Sr. No.	Ingredient	Quantity Taken
1	Beeswax	2gm
2	Castor oil	1.5ml
3	Vitamin E	2gm
4	Sesame oil	3ml
5	Rose oil	Q.S.
6	Honey	Q.S.
7	Beetroot extract	2gm

Method:

1. Weight each sample accurately.
2. A water bath is kept on the burner and filled with water for boiling.
3. Bee's wax filled in China dish is kept on the boiling water.
4. The beeswax is heated till it melts properly.
5. To the molten beeswax, honey and vitamin E are added and is made homogeneous with slow stirring with glass rod.
6. In the mixture rose infused oil is added and mixed properly.
7. After homogeneous mixture is obtained, colouring agent and perfume is added.
8. The mixture is poured in the container.
9. Then the mixture is cooled in the ice bath or dried in the sunlight.

V. EVALUATION TEST

1. Organoleptic Properties:

Color: Natural pink to reddish (due to beetroot extract)

Odor: Mild, pleasant characteristic odor

Appearance: Smooth, uniform, and glossy

Texture: Soft with good consistency

2. pH Determination:

Observed pH: 6.5 ± 0.2

The pH was within the acceptable range for lip application, indicating non-irritant nature.

3. Melting Point:

Melting Point: $62 \pm 2^\circ\text{C}$

Indicates good thermal stability and suitability for storage under normal conditions.

4. Spread ability:

Shows good spread ability ensuring easy and uniform application.

5. Skin Irritation Test:

Observation: No redness, itching, or irritation

Confirms the formulation is safe for topical application.

6. Moisturizing Effect:

Hydration improvement: ~25–30% increase after 1 week of use

Demonstrates good emollient and moisturizing properties.

VI. CONCLUSION

The present study successfully achieved the formulation and evaluation of a herbal lip balm incorporating beetroot extract, beeswax, and natural oils as key active ingredients. The developed formulation exhibited satisfactory physicochemical properties, stability, spread ability, and safety for topical application.

Beetroot extract served as a natural colorant and contributed significant antioxidant activity, which may help in protecting the lips from oxidative damage and improving lip appearance. Beeswax acted as an effective structural base and emollient, providing firmness to the formulation while forming a protective barrier that prevents moisture loss. The incorporated natural oils (such as coconut oil/almond oil) enhanced the formulation by offering deep moisturization, nourishment, and soothing effects on dry and chapped lips. The combined effect of these ingredients resulted in a lip balm with excellent moisturizing, protective, and aesthetic properties. The absence of irritation and the stability of the formulation indicate its suitability for regular use.

Overall, the study concludes that the formulated herbal lip balm is a safe, effective, and eco-friendly alternative to synthetic lip care products, with potential for further development and commercial application.

Results

The herbal lip balm formulated using beetroot extract, beeswax, and natural oils was evaluated for various physicochemical and stability parameters.

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