



Formulation and Evaluation Of Herbal Lip Balm.

Kashid Ganesh Balasaheb¹, Mr. Khan Z.K²

Late Narayandas Bhawandas Chhabada Institute of Pharmacy, Raigaon, Satara, India.

²Guide: Professor, Department of Pharmacy.

Late Narayandas Bhawandas Chhabada Institute of Pharmacy, Raigaon, Satara, India.

gkashid69@gmail.com

ABSTRACT:

People have been utilizing cosmetics to embrace a natural lifestyle for a time now. Cosmetic chemicals can occasionally be bad for your skin. Physiologically active ingredients are used in the production of these cosmetics. Cosmetics that contain biologically active substances that mimic the effects of drugs or medicine are known as cosmetics. Research was done on the formulation, design, and quality of lip balm created with natural substances. In this study, a variety of substances, including beetroot, almond oil, aloe vera, vitamin E, and rose essence, were used to make lip balm. It was made using the homogenous mixing method.

A lip balm made with the substances listed above might be a better choice for treating a variety of lip problems. Preservatives and dangerous heavy metals are present in daily lip care products. These heavy metals and other pollutants can be accidentally consumed in addition to leaking via your lips' pores. The most common uses for lip balm formulations are to accentuate the beauty of the lips and give makeup a glamorous touch. A natural method of promoting and maintaining healthy lips is through the use of lip balms. The usage of massive chemical compounds in today's cosmetic lip products has a number of negative effects. As a result, an effort has been made to research the natural ingredients that go into making natural lip balm. You may make the natural lip balm with

Organic lip balm hydrates, protects, and nourishes lips that have been damaged by dryness. It is advised to use herbal cosmetics to counteract these adverse effects. They contain organic substances that effectively heal skin conditions. Because they keep food in the mouth and keep things out of the mouth, the lips are essential to the face. Because it lacks oily glands, lips need to be kept hydrated and shielded all day.

Keywords- Lip balm, Lips, Beetroot, Formulation, Natural ingredients

Introduction:

Herbal lip balm is a natural, plant-based product designed to nourish, protect, and soothe the lips. With an increasing demand for chemical-free and eco-friendly alternatives, the formulation of herbal lip balm combines the healing properties of various plant extracts, essential oils, and natural butters. These ingredients are carefully selected for their moisturizing, anti-inflammatory, and antioxidant properties, making them ideal for treating dry, chapped, and sensitive lips.[1]

The formulation process involves balancing these natural ingredients to create a balm that not only provides hydration but also helps to lock in moisture, offering long-lasting protection against environmental elements such as wind, sun, and cold weather. By choosing plant-based components, herbal lip balms minimize the risk of irritation and allergens, catering to individuals with sensitive skin. In addition, the use of organic and sustainable ingredients aligns with the growing trend of conscious consumerism, where people seek products that are kind to both their health and the planet.

This formulation process emphasizes simplicity, safety, and effectiveness, making herbal lip balms a popular choice for those looking for a natural alternative to commercial lip care products.[2]

Compared to synthetic products, which can have a number of negative health impacts, herbal remedies are safer. An ancient method of enhancing lip beauty and giving face makeup a glamorous touch is lip coloring.

Herbal lip balm is produced using natural herbal components. Its purpose is to protect the lips from drying out and chapping while also providing moisture. Many people choose herbal lip balms over conventional ones since they are made with natural ingredients and often don't contain artificial chemicals or preservatives.

Using herbal lip balm has several benefits, including preventing cracking and peeling, reducing inflammation and irritation, and shielding the lips from UV damage. Herbal lip balms that contain essential oils can also have a relaxing effect.[3]

Role of ingredients:**Beet Root :**

Beetroot juice benefits your skin and hair in addition to your overall wellness. It is high in vitamin C and antioxidants, which lessen skin damage. It also prevent hair loss. Beetroot juice might be good for your appearance. Before making any dietary adjustments or adding any new supplements to your regimen, it is always important to speak with your healthcare professional.

The bright red vegetable is a nutrient-dense powerhouse. Beetroot improves blood flow and endurance, decreases blood pressure, lowers the risk of heart disease and stroke, and strengthens the immune system by enhancing digestion. It is possible to eat beetroot fresh, cooked, in juice, or even powdered. Beetroot powder is used to make pastes and masks that are beneficial to the skin and hair.

Our skin seems plump, healthy, and radiant because beetroot helps cleanse the blood by eliminating toxins. Beetroot's vitamin C shields the skin from the first indications of aging. Beetroot's iron component also helps to repair damaged cells from the inside out, giving dull skin a quick shine. Additionally, beetroot lightens the skin tone by clearing the epidermis of debris and dead skin cells. Vitamin C also cures hyperpigmentation and reduces the production of melanin. (4)

2. Bees Wax:

Beeswax is incredibly hydrating and helps shield the lips from the sun's damaging effects. The scent is wonderful. Research has also found that beeswax has a small quantity of natural antibacterial agent in addition to its natural emulsifying properties. These antibacterial substances can aid in avoiding the excruciating inflammation that accompanies an infection.

Beeswax, a naturally occurring material made by bees, creates a protective coating that seals in moisture on the surface of your lips. Your lips will remain hydrated, healthy, and smooth thanks to these barrier-forming qualities. Additionally, beeswax has anti-inflammatory and anti-bacterial qualities that can help prevent chapping and heal dry, cracked lips. (5)

3. Almond Oil:

The fatty acids in almond oil aid to moisturize the lips by penetrating deeply into the skin. Almond oil's anti-inflammatory qualities lessen the discomfort of chapped and sunburned lips.

Light in weight, almond oil is easily absorbed by the skin. The richness of almond oil in fatty acids enters into gaps in your lips to hydrate it from within and lock in the moisture. Additionally, almond oil has a lot of vitamin E, which keeps your lips moist and supple.

Almond oil protects against tanning and hyperpigmentation, which lightens the lips while also preventing premature aging and free radical activity. Additionally, sweet almond oil's emollient properties aid in lip tightening. [6]

4. Vitamin E Capsule :

Vitamin E is a natural conditioner and antioxidant. By minimizing the symptoms of aging, vitamin E helps to preserve the lips' smooth, youthful texture.



Dry, chapped lips can be relieved with topical vitamin E oil. Vitamin E accelerates the emergence of new cells on dry lips because it encourages cell turnover and regeneration. Vitamin E oil's viscous, greasy texture can also stop more discomfort. A product's color can also reveal information about its freshness and quality. However, natural colors are less harmful than manufactured ones. Commercial synthetic dyes were used to create eye-catching hues. However, it is harmful to the environment and skin. Using lip balm guarantees that dry lips heal quickly.

Compared to the skin on your face, the skin on your lips is thinner. Therefore, applying a lip balm will guarantee that your lips are properly hydrated and that they recover more quickly if you are experiencing dry and chapped lips. The goal of the current study is to create and assess herbal lip balm for lip protection utilizing readily available components. Additionally, it will make lips more appealing and glossy. The goal of this endeavor was to thoroughly examine natural lip balm. This was founded on the thorough literature on excipients, lip balm formulation, and evaluation. (7)

5. Rose Water :

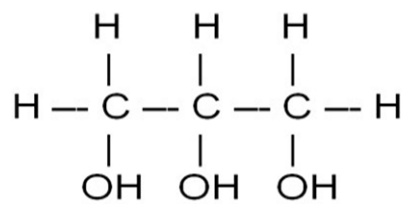


A plant with many medical and substance uses, roses are lovely and fragrant. Roses' fruits, petals, leaves, and bark can all be used to create a variety of products for the food, medicine, engineering, and cosmetics industries. Inflammation, diabetes, dysmenorrhea, sadness, stress, seizures, and aging are among the medical conditions that roses can be used to treat. Rose water has antibacterial properties on a variety of microorganisms and is a valuable beauty water for skin care. Microscale papillae make up the hierarchical structure of a rose petal's surface, and each papilla has complex nanofolds. Rose petals possess oppositional wetting qualities and high water contact angles due to this structural characteristic. (8)

3) Monograph Of Every Excipients Used:

1. Glycerol:

This simple triol molecule is also known as glycerine or glycerin. It is a colorless, odorless, viscous liquid that is sweet-tasting and non-toxic. Lipids called glycerides have the glycerol backbone. It is also frequently employed as a humectant in medicinal formulations and as a sweetener in the food sector. Glycerol is hygroscopic and miscible with water due to its group.



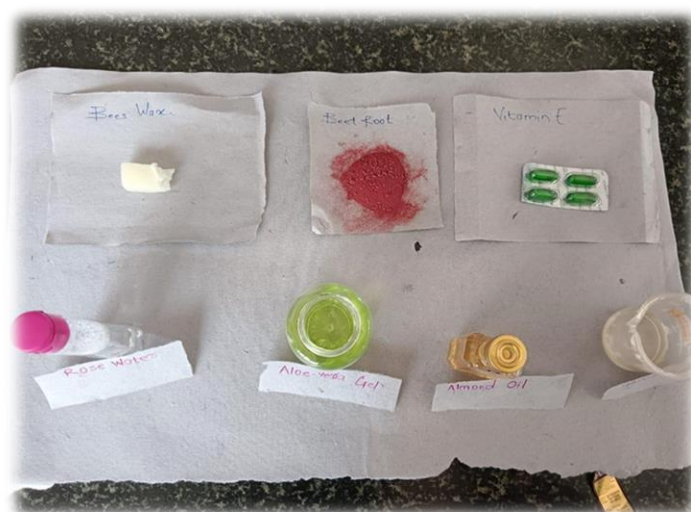
Glycerol

Material :**Material and equipment****Material:**

Sr. No	Material
1	Beetroot
2	Beeswax
3	Almond Oil
4	Vitamin E
5	Rose Water
6	Glycerol

Equipment:

Sr. No	Equipment
1	Autoclave
2	Centrifuge
3	Melting Point Apparatus
4	Weighing Balance
5	Ice Bath
6	Water Bath
7	Beaker



Formulation Table:

Sr. No	Ingredients	Quantity	Uses
1	Beeswax	3gm	Impart glossiness and hardness
2	Beetroot	2gm	Colouring Agent
3	Almond Oil	5-6 drop	Moisturizing agent
4	Aloe Vera	1gm	Antioxidant, anti-inflammatory
5	Vitamin E	1 capsule	Anti-oxidant, Maintain the stability
6	Rose Water	2ml	Flavouring agent
7	Glycerol	2ml	Glossy effect

5. Method Of Preparation :

A digital balance was used to weigh each of the mentioned substances precisely, to within 0.1 grams. An indirect flame was used to heat solid raw components to a constant temperature in order to prepare the herbal lip balm. The crude, uniformly sized beeswax was melted in a 50 ml beaker over an indirect flame at a maximum temperature of 90°C. All other ingredients, including vitamin E, beetroot juice, rose essence, and almond oil, were thoroughly mixed and added to the mixture, which was continuously stirred until it was homogenous. The mixture was then poured into balm molds, and right before the glycerine was poured, cotton was placed over the mold, and the molds were placed in an ice bath for approximately an hour.[10]

6. Evaluation parameter:

Melting Point:

Melting point of lip balm was discovered to be in the range of 63, which fits with the recommended melting point of between 65 and 75.[11]

1. Physical Appearance

- **Color:** The balm should have a natural, appealing color, potentially a pinkish-red or deep reddish hue derived from beetroot. The color should be uniform without any separation of pigments.
- **Texture:** The balm should have a smooth and consistent texture, free from lumps or graininess. It should glide easily on the lips without feeling too thick or too runny.
- **Consistency:** The lip balm's consistency should be appropriate—firm enough to apply easily but not too hard or too soft. It should hold its shape but still be smooth to apply.[12]

2. Moisturizing and Hydration Effect

- **Hydration Duration:** Evaluate how well the lip balm provides moisture to the lips. It should hydrate the lips for several hours without frequent reapplication.
- **Moisture Retention:** After application, the balm should help to lock in moisture, preventing the lips from becoming dry or cracked over time.
- **Skin Softness:** The lip balm should leave the lips feeling soft and smooth. The moisturizing effect should be noticeable immediately after use and last for several hours.[13]

3. Sensory Evaluation

- **Scent:** The lip balm should have a mild, pleasant scent. The earthy odor of beetroot should be neutralized by added natural fragrances (like peppermint, lavender, or rose) without overpowering the product's appeal.
- **Taste:** If the balm is applied to the lips, a neutral or mildly pleasant taste is preferable. The product should not have a bitter or unpleasant aftertaste.
- **Ease of Application:** The balm should apply evenly and smoothly, with no tugging or resistance. It should not be too sticky or greasy.[14]

4. Stability and Shelf Life

- **Color Stability:** The color of the balm, especially derived from beetroot, should remain consistent over time. It should not fade or change drastically under different storage conditions (e.g., exposure to light, heat, or air).[15]

5. Efficacy and Performance

- **Lip Protection:** The lip balm should provide a protective barrier against harsh environmental factors like cold weather, sun exposure, or wind.
- **Healing and Soothing Effect:** For individuals with chapped or cracked lips, the balm should promote healing, soothing irritation, and providing relief from discomfort.
- **Absorption:** The lip balm should absorb well into the skin without leaving a sticky residue, though it may leave a slight sheen.[16]

6. Skin Sensitivity and Irritation Testing

- **Patch Test:** A patch test should be conducted to ensure the lip balm does not cause irritation or allergic reactions on sensitive skin.
- **Non-irritating:** The formulation should be mild and non-irritating for most users. It should not cause redness, itching, or stinging, even when used repeatedly.

- **Hypoallergenic:** The ingredients should be selected to minimize the risk of allergic reactions, particularly considering the use of beetroot extract and other herbal components.[17]

Result And Discussion:

1. Melting Point:

Melting point of lip balm was discovered to be in the range of 63, which fits with the recommended melting point of between 65 and 75.

2. Organoleptic Properties:

The prepared lip balm has a nice scent and a cream color.

Sr. No	Parameters	Observation
1	Colour	Cream
2	Appearance	Excellent, smooth
3	Odour	Pleasant

3. Test of Spreadability:

At room temperature, the prepared lip balm first displayed G-Good qualities, including uniformity, lack of fragmentation, flawless application, and no deformation.

4. Measurement of pH:

pH of lip balm was near to neutral pH i.e. 7.2, this would not cause any irritation to lips.



9. Conclusion:

A comprehensive evaluation of a herbal lip balm formulated with beetroot involves assessing its physical properties, sensory experience, performance, and stability, along with considering safety, skin sensitivity, and market acceptability. These evaluation parameters ensure the product meets quality standards and fulfills consumer expectations for a natural, effective, and safe lip care product.

10. REFERENCE

1. Singh, P., & Kumar, P. (2018). Benefits of using herbal lip balms. *Journal of Investigative Dermatology*, 138(1), 241-248.
2. Kumar, P., & Kumar, V. (2019). Benefits of using antioxidant-rich natural ingredients in lip balms. *Journal of Clinical and Aesthetic Dermatology*, 12(10), 17-20
3. Kumar, A., & Sharma, S. (2020). Market trends in natural and organic cosmetics. *Journal of Cosmetic Science*, 71(2), 163-170.
4. Solano, F., et al. (2018). Melanin formation and hyperpigmentation. *Journal of Investigative Dermatology*, 138(1), e123-e133.e2.
5. da Silva, A. C. R. G., et al. (2020). Beeswax: A natural, sustainable, and multifunctional ingredient for cosmetics and personal care products. *Journal of Cleaner Production*, 247, 119104.
6. Singh, S. K., et al. (2020). Vitamin E in almond oil: Its role in skin health and protection. *Journal of Clinical and Aesthetic Dermatology*, 13(10), 14-16.

7. Fernando, S. D. G., et al. (2018). Herbal lip balms: A review of their formulation, evaluation, and applications. *Journal of Herbal Medicine*, 11, 1-9.
8. Zakaria, M. R., et al. (2019). Rose petals: A natural source of inspiration for biomimetic surfaces. *Journal of Bionic Engineering*, 16(2), 249-258.
9. Fernando, S. D. G., et al. (2018). Glycerol: A natural moisturizer for skin and hair care. *Journal of Cosmetic Science*, 69(3), 267-276.
10. Lee, J. H., et al. (2018). Herbal lip balm: A review of its formulation, evaluation, and applications. *Journal of Cosmetic Dermatology*, 17(2), 147-154.
11. Lee, J. H., et al. (2018). Evaluation of spreadability and texture of lip balm formulations. *Journal of Cosmetic Dermatology*, 17(2), 155-162.
12. Lee, J. H., et al. (2018). Patch testing for skin sensitivity: A review of the literature. *Journal of Cosmetic Dermatology*, 17(2), 163-170.
13. Christopoulos A, Mouthanatomy <https://emedicine.medscape.com/article/1899122-overview> Sep 11, 2018.
14. B.H. Ali, N.A. Wabel, G. Blunden, Phytochemical, pharmacological and toxicological aspects of *Hibiscus Sabdariffa L.*: a review. *Phytother Res.* 19 (2005) 369-375.
15. 12. M.S. Balsam, E. Sagarin, *Cosmetics science and technology*, Second ed. Wiley Interscience Publication, NY, USA, 2008, 3, pp. 209-512.
16. Fernandes AR, Dario MF, Stability evaluation of organic lip balm. *Brazilian Journal of Pharmaceutical Sciences*, 2013; 49; 293-300.
17. Kadu M, Singh V. Review on natural lip balm *International Journal of Research in Cosmetic Science* 2015; (1): 1-7.