

Formulation and Evaluation of Herbal Beet Root Lip Balm

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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 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, 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

I. INTRODUCTION

Herbal lip balm is a natural, plant-based product designed to moisturize, protect, and smooth 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.

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.

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.

Literature of review –

1. Lip balm

Women frequently use lip balm to give their lips a lovely colour and protection. Lip balm is a cosmetic product with added benefits. oil, colorant, and other chemicals are the basic components of a lip stick. Beeswax is the typical wax used in lip balm. In lip lick composition 10, camellias are wax and c camellias are wax are combined to create strength and strike true colour in the lip balm. The composition of lip uses a variety of plant-based oils, including jojoba seed oil, the oil of sweet almonds, and castor seed oil. Oils Serve as a moisturising agent in lip balm and help to combine the substance to create a smooth and flawlessly flexible substance. Shea butter works as a moisturiser to create stable lip balm mixtures that are rigid at ambient temperature yet glide and melt over the lips once applied.

2. Global Lip balm Demand –

The quick urbanisation. Consumers' purchasing power is increased by 11 ion in developing nations. The global demand for lip balm is driven by the trend of increased internet usage. According to Alana from that advertising tactics, consumer appetite for lip balm will increase over the course of the upcoming year as they advertise their products on social media platforms like you tube, facebook, and instagram.

Based to a company analysis, worldwide sales for lip balm peaked In 2016 at \$7.15 billion and is expected to reach \$9.2 billion in 2018. The lip balm market is predicted to produce \$13.4 billion in ales by the year 2021. The market's rise is mostly attributed to the increase in demand from young adults who work women globally.

In the near future, the demand for lip balm will progressively rise. A negative impact of synthetic colours on the health of people has increased along with the population. The current study's goal is to produce natural lip balm colouring. Give the most effective answer to this problem.

3. Self-Decoration

Mankind have long decorated themselves to draw attention to the other gender. Anthropologists contend that women utilise cosmetics to mimic an orgasmic condition in their bodies. Doune Ackerman living in Pallington in 1999. Because the lips resemble the genitals, The consciously and unconsciously causes why women constantly make them look even redder using lip balm are that they blush red and swell while around. Despondent animal behaviorists these assertions' are supported by moates, who sees makeup as a trick used by con artists to divert focus from the rest of the body including the head. He believes that the red lip balm lips stand in for the arrogantly engorged labia. The detailed pupfish of exposition 1999 is checked at a distance by the skating state of the light and the darkened eyes. According to evolutionary psychologists, our plasticene ancestors evolved behaviours like self-decorrelation through natural selection processes, which then entered our genetic code. The triple 2000 and gad. Rose and rose 2000, Goode 2000. Women's use of self-decoration has changed significantly in recent years. Pleiss. From the 1950's big, lush-lashed eyes. With the new specialised lip balm firms that sprang up over the years, minoring lip balm has undermined & n revival in popularity to become a daily product. As a result of the black and blue lip balm of the gothic and shock bands in the nineties, the lip balm environment continues to alter today.

4. Women and beauty-

Highlighted society's commercialization of young girls as they attempt to achieve the unrealistic lanky model image portrayed in popular culture. According to Thompson and, who also looked at how the body came to be seen as the ideal form, women normalize their bodies to preserve an appearance that is regarded as the cultural standard through the practice f self-care (Rook, 1985).

Additionally, studies have looked closely at the impact that these signals have on women's aspirations for their physical appearance (Solomon). Similar to other study, society gives greater significance to physically attractive persons (Setoff



1999). Richens, 1991; Fabricant and Gould, 1993. According to studies, those who are seen to be more beautiful typically have greater social standing than those who are less attractive (Fabricant and Gould the year 1993). Richens and Mc Nell, 1991. It is understandable that there are complaints about cosmetics given how well they are promoted to achieve a goal and how they are used to enhance female appearance.

Due to the widespread belief that a woman's look and her perception of her own value are linked, Witham was famous. Colure has been aggressively abused (English, Lurky 1996; Simon and Ashmore 1994). And lip balm is a crucial component of the appearance that many women work so hard to achieve.

Aim – To create a natural lip balm with moisturizing and potentially antioxidant properties, while also assessing its safety and effectiveness.

Objectives –

To create a natural and effective lip care product that provides hydration, color, and potentially other benefits, while minimizing the use of synthetic ingredients.

Benefits -

- ☐ Lip balms help to protect the natural health and beauty of the lips.
- ☐ Sun block lip balms are proved to prevent ultraviolet rays from hurting the lips.
- ☐ They are not gender specific products and both men and women can use them.
- ☐ Lip balm products help to protect lips affected by cold sores, chapping and dryness.
- ☐ Contact of the product with the skin will not cause a sensation of friction or dryness, and should allow the forming of a homogeneous layer over the lips in order to protect the labial mucous susceptible to environmental factors such as UV radiation, dryness and pollution.
- ☐ It refreshes, renews and also addresses lip-related symptoms resulting from colds, flu and allergies.
- ☐ The use of natural lip cosmetic to treat the appearance of the face and condition of the skin.

Plan of work-

- ☐ Literature of review
- ☐ Ingredients of profile
- ☐ Material & method chart
- ☐ Formulation of beet root lip balm
- ☐ Evaluation test

Drug profile -

Sr. No.	Ingredients	Uses
1	Beet root extraction	Colouring agent
2	Bees wax	Impart glossiness & hardness
3	Almond oil	Moisturizing
4	Vitamin E capsule	Anti oxidant
5	Rose water	Flavoring agents
6	Glycerine	Glossy effect



1) Beet root -



(Fig. No:-1)

- ☐ Synonyms:- beet root , European sugar beet, red garden beet , blood turnip.
- ☐ Biological source:- The biological source of beetroot is the taproot of the plant beta vulgaris.
- ☐ Family:- Amaranthaceae
- ☐ Chemical constituents:-
 - Water,
 - Carbohydrates,
 - Proteins,
 - Fats,
 - A variety of vitamins and minerals.
- ☐ Uses:-
 - 1) Remove tan from the lips.
 - 2) Gives natural moisture to lips.
 - 3) Remove pigmentation of lips.
 - 4) Repair dryness and flakiness lips.
 - 5) Used to colour enhancing properties.

2) Bees wax –



(Fig. No. 2)



- ☐ Synonyms:- Yellow bees wax , honeycomb wax
- ☐ Biological source:- Bees wax is an natural wax produced by honeybees, specially from worker bees with in their honeycomb.
- ☐ Family:- Cera alba
- ☐ Chemical constituents:-
 - Esters of fatty acids,
 - Alcohols,
 - Hydrocarbons,
 - Free fatty acids
- ☐ Uses:-
 - 1) Retain moisture in the lips.
 - 2) Help to heal cracked or wounded lips.
 - 3) Deeply nourishes dry, chapped lips.
 - 4) Keeps lips soft throughout the day.
 - 5) It creates a protective barrier on the lips.

3) Almond oil –



(Fig. No.3)

Synonyms:- sweet almond oil, almond oil

Biological source:-Almond oil is sourced from the seeds (kernels) of the sweet almond tree.

Family:- Rosaceae family

Chemical constituents:-

- polyunsaturated fatty acids,
- linoleic acid,
- palmitic acid,
- stearic acid,
- vitamins,
- minerals,



Uses:-

- 1) Help to hydrate and soften dry, chapped lips.
- 2) Help to soothe and protect them from sun damage.
- 3) Prevent cold sores and improve lip texture.
- 4) Help to retain moisture in the lips.
- 5) Healing properties.

4) Rose water



(Fig. No: 4)

- Synonyms:- Rosa bankisia , Rosa Odorata
- Biological source:- A rose is a woody perennial flowering plant of the genus Rosa.
- Family:- Rosaceae
- Chemical constituents:-
Polyphenols,
Fiber,
Pectin,
Various sugars.

□ Uses:-

- 1) Help to hydrate and moisturize the lips.
- 2) Help to protect lips from infection.
- 3) It can soothe irritated or sensitive skin on the lip.
- 4) Rose water add a suitable & pleasant rose fragrance to the lip.
- 5) Enhance their natural color.
- 6) Adding softness and restoring pink lips.



5) Vitamin E capsule –



(Fig. No:5)

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.

□ Uses –

- 1) Provide moisturizing
- 2) Helping to soothe and protect the lips.
- 3) Anti oxidant benefits.
- 4) Protect the lips from sun damage.

6) Glycerine -

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.





(Fig. No:6)

□ Uses-

- 1) Hydrate and moisturizes.
- 2) Softness lip skin
- 3) Heals cracked and dry lips.
- 4) Helping to keep soft and suppl.
- 5) Glycerine can also help to extend the shelf life of a lip balm by inhibiting the growth of bacteria and fungi.

Preparation of lip balm -

- Weight all the excipients.
- Add bees wax & almond oil in a beaker and melt it in water bath at 55-60°C.
- Add all the other ingredients like vitamin E capsule, rose essence, beet root juice were mixed vigorously and add to the mixture & mixture was stirred continuously till homogeneous mixture was obtained.
- A mixture was poured into the container, & it was let to be air dried at room temperature.
- Before pouring the mixture in lip balm moulds, on the applying glycerine with the help of cotton, put the filled moulds into ice bath for 10 min.

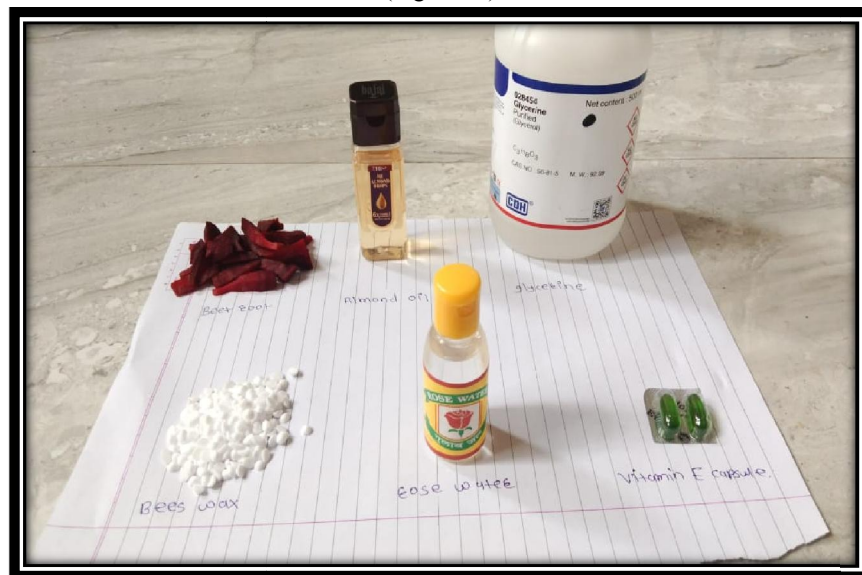
Material & method chart –

Sr .no	Ingredients	Quantity
1	Beet root extraction	3 ml
2	Bees wax	3 gm
3	Almond oil	5-6 drops



4	Vitamin E capsule	1 capsule
5	Rose water	2 ml
6	Glycerine	2 ml

(Fig. No:7)



(Fig. No:8)

Evaluation of Test –

- ☐ Melting point:- Melting point of lip balm was found to be in the range of 68 °C –69 °C .
- ☐ Organoleptic properties –
 - 1) Colour – Reddish brown
 - 2) Appearance – Excellent , smooth
 - 3) Odour – pleasant
- ☐ pH:- Neutral



- ☐ Test of spread ability – Easily spreadable and uniform
- ☐ Skin Irritation test:- No irritation.
- ☐ Stability studies:- Prepared lip balm was placed for accelerated stability studies at room temperature (25.0+-30.0C).

Result –

Sr.no	Parameters	Observation
1	Colour	Reddish brown
2	Appearance	Excellent, smooth
3	Odour	Pleasant
4	pH	Neutral
5	Melting point	68 °c – 69 °c
6	Test of spread ability	Easily spreadable and uniform
7	Skin irritation	No irritation
8	Viscosity	350 cps
9	Greasiness	Small greasy

II. CONCLUSION

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

The present study aimed to create a lip balm with as many natural elements as feasible. The main colouring and flavoring ingredients were beetroot extract, rose water, vitamin E capsules, and almond oil. Almond oil served as the moisturising agent. Researchers looked examined how these components affected the formulation's physical features, including spread ability, uniformity, and organoleptic characteristics. It may be said that using these natural components helped create a great lip balm composition. Findings of numerous studies suggested that the recipe was safe to use and cleared various physical tests. According to stability information, The mixture should be stored at room temperature. In the future, natural bases like Sheabutter, paraffin wax, etc. Could take the place of the beeswax that was employed as a base for the existing formulation.

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