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Formulation And Evaluation Of Herbal Lipstick'

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ABSTRACT:

Cosmetics are products formulated to enhance or alter the appearance of the human body. They encompass a wide range of items, including nail polishes, eye and facial makeup, hair dyes, deodorants, and bath products, which are in high demand across both developing and developed nations. Among these, lipstick stands out as a widely used cosmetic, primarily composed of pigments, oils, waxes, and emollients that impart color, texture, and protection to the lips. While traditionally associated with female consumers, lipstick usage transcends gender boundaries. Modern formulations often incorporate moisturizing agents, blurring the lines between lipsticks and lip balms. The term "lipstick" has evolved from referring solely to the stick form within a tubular container to encompassing various application methods and formats.

Recent trends indicate a growing consumer preference for natural and herbal cosmetics, driven by concerns over synthetic ingredients and their potential side effects. This shift has led to increased research into herbal lipstick formulations, utilizing natural colorants and plant-based ingredients. Studies have explored the use of extracts from plants like beetroot (Beta vulgaris), rose petals, and prickly pear (Opuntia ficus-indica) to develop lipsticks that are not only aesthetically pleasing but also offer additional benefits such as hydration and reduced risk of allergic reactions.

Keywords: Cosmetics, Lipstick, Herbal Formulation, Natural Colorants, Product Evaluation.

Introduction:

Cosmetics have become a crucial part of daily life for many women, with herbal cosmetics gaining significant popularity due to their natural formulations.

These products are made using various permissible cosmetic ingredients, with one or more herbal components providing distinct benefits. Herbal cosmetics are often preferred over their synthetic counterparts because they are considered safer and more beneficial for health. The rise

of the herbal cosmetics market reflects a growing trend in the beauty and fashion industry, where consumers increasingly seek natural alternatives. The global market for herbal beauty products continues to grow, driven by consumer demand for chemical-free, nourishing products that
enhance beauty while also maintaining skin health. Herbal cosmetics are gaining trust as they offer nutrients that promote overall well-being without the side effects often associated with synthetic ingredients.

Herbal Lipstick:

A cosmetic product made from pigments, oils, fragrances, preservatives, and natural ingredients to provide color, texture, and protection to the lips.

Importance of Herbal Lipstick:

Moisturizes and nourishes chapped lips. Stimulates

collagen and repairs damaged skin. Adds shine to the lips.

Makes lips soft, smooth, and evenly toned.

Objectives:

To formulate herbal lipstick using an appropriate method. To evaluate

the prepared herbal lipstick.

Review of Literature:

1. Sneha Yadav et al. (2023):

Prepared herbal lipsticks using natural color.

Evaluated on parameters like spreading, stiffness, shine, and gloss.

Ingredients: carnauba wax, white beeswax, peppermint oil, castor oil, almond oil. Goal: Safe,

effective herbal lipstick with minimal side effects.

2. Pooja Mishra et al. (2011):

Focused on herbal ingredients for lipstick.

Evaluated parameters like pH (6.89±0.12), melting point (59-62°C), and thixotropy (10.5).

3. Richa Kothari et al. (2012):

Used natural agents like cinnamon bark, turmeric, cocoa powder, and oils.

Evaluated on color, texture, pH, melting/softening points, surface anomalies, aging, and perfume stability.

Found herbal formulations similar to market standards and suitable for lipstick production.

Materials and Methodology Materials:

Olive oil, bees wax, paraffin wax, acacia, rose essence – sourced from the college laboratory.

Beet root, lemon juice – purchased from the market.

Methodology:

a) Extraction Procedure:

Process: Decoction method using ethanol. Steps:

Beetroot cut into slices (~21mm long, 5mm wide, 1–2mm thick).

Boiled in ethanol (60–80°C) for ~15 mins at a 1:6 (drug:ethanol) ratio. Boiled to reduce volume to 1/4th.

Extract filtered and concentrated to yield a dark reddish color. Dried in desiccators and stored in airtight glass containers.

b) Method of Preparation:

Wax Phase:

Beeswax and paraffin wax melted at 70°C in order of melting points.
Oil Phase;

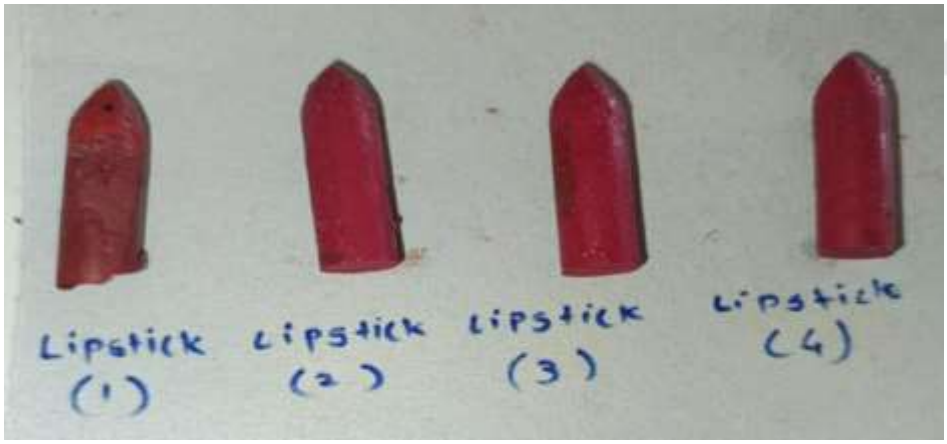
Olive oil and acacia melted separately at 70°C in order of melting points. Color Addition:

Betanin (from beetroot extract) added to the oil phase, then mixed with the wax phase. Final Steps:

Mixture cooled to 40°C.

Lemon juice, rose essence, and perfume added.

Poured into lipstick moulds, cooled and solidified, then fitted into cases. Melting Point:



Fig; (Prepared herbal lipstick)

Formulation table:

Ingredients	F1	Uses
Beeswax	6gm	Glossy and hardness
Almond oil	1ml	Improve natural appearance
Paraffin wax	14gm	Moisturizing agent
Beetroot powder	5gm	Coloring agent
Acacia	1gm	Emulsifying agent
Rosewater	1ml	Flavoring agent
Perfume	1ml	Fragrance

Evaluation Parameters:

1. **Melting Point:**

50 mg of lipstick melted and placed in a capillary tube. Cooled with ice

for 2 hours.

Tube placed in water with heating and stirring; temperature at which lipstick moves is the melting point.

2. **Colour and Texture:**

Checked for color, glossiness, and smooth texture.

3. **Breaking Point:**

Lipstick tested for the load it can withstand before breaking. Weight increased

by 10 gm every 30 seconds until it breaks.

4. **Skin Irritation:**

Lipstick applied to skin for 10 minutes to observe reactions.

5. **Perfume Stability:**

Fragrance tested after 30 days.

6. **Surface Abnormality:**

Observed for defects like crystals, molds, wrinkles, exudates, etc.

7. **Solubility:**

Tested in various solvents.

8. **Softening Point:**

Lipstick heated slowly in water.

Temperature at which it bends or deforms is the softening point.

Result and discussion

1. Mealting point

Table no 2(Melting point)

SR.NO	Start Melting point	End Melting point	Mean
1	61°C	68°C	65°C
2	60°C	62°C	65°C

Final Result: 64°C ± 0.577 using Thiele's tube method.

2. Breaking point.

Table no 3(Breaking point)

Weight(gm)	Breaking point (min)
10gm	Not observed
20gm	Not observed
30gm	3min

Conclusion: Lipstick breaks at 30 gm within 3 minutes.

3. Softening Point:

Table No. 4(softening point)

SR.NO	Start softening	End softening	Mean
1	57	61	59
2	58	60	59

Final Range: Softening point is between 57°C to 61°C ± 2.

4. Solubility Test

Table no. 5 (solubility test)

Compounds	**Solubility**
Water	Insoluble
Ethanol	Insoluble
Chloroform	Slightly soluble
Acetone	Soluble

5. Colour: Reddish brown

6. Texture: Smooth

7. Skin Irritation: No irritation caused

8. Surface Abnormality: No defects

9. Perfume Stability: Good perfume retention properties

10. Microbial test:

SR.NO	Name of microorganism	Diameter of zone of inhibition(mm)	
		Streptomycin(10mg)	Lipstick

1	Staphylococcus aureus	20	15
2	E .coli	15	25

Conclusions:

The beetroot extract can serve as a natural colorant in lipstick, offering an alternative to synthetic colors that may cause side effects. The lipstick showed good organoleptic properties, favorable results in solubility, softening point, melting point, and breaking point tests, and was non- irritating when applied to the skin.

Discussion:

The present work formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones. The prepared formulation was evaluated and it was found that the herbal lipstick, formulation containing was best among the seven formulations in terms of color and smoothness. The formulations containing i.e; and proved to be better than the rest of formulations in terms of breaking point. However the lipsticks were hard to apply in comparison to other formulations. None of the formulations produced any skin irritation. No surface anomalies were found in any formulation. Aging stability was smooth for all the seven formulations. Perfume stability was best in formulation containing rose oil among all seven formulations. formulations also showed adequate perfume stability upon storage. Solubility of the prepared herbal lipsticks was checked in different solvents like methanol, ethanol, chloroform and petroleum ether. All the seven formulations were found to be soluble in methanol. Hence, from present investigation it was concluded that this formulated herbal lipsticks has better option to women with minimal side effects though a detailed clinical trials may be done to access the formulation for better efficacy

The study on the formulation and evaluation of herbal lipsticks aimed to develop lipsticks using natural ingredients to minimize the side effects associated with synthetic counterparts. Seven different formulations were prepared and assessed based on various parameters.

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