



CULTIVATING BEAUTY: FORMULATION AND ASSESSMENT OF A NOVEL HERBAL CREAM FOR EYEBROW GROWTH ENHANCEMENT

Muskan M. Mouraiya*, Saurabh M. Dave, Hemant H. Gangurde, Kamlesh A. Kadam and Ankush A. Bhalerao

Shri Sant Gajanan Maharaj College of Pharmacy, Buldana.

***Corresponding Author: Muskan M. Mouraiya**

Shri Sant Gajanan Maharaj College of Pharmacy, Buldana.

Article Received on 21/07/2023

Article Revised on 11/08/2023

Article Accepted on 01/09/2023

ABSTRACT

The pursuit of beauty has been an enduring aspect of human civilization, leading to the utilization of various cosmetic products enriched with herbs for enhancing appearance. This study focuses on the preparation and evaluation of a novel herbal cream designed to promote eyebrow growth. The formulation incorporates a range of natural ingredients renowned for their hair-enhancing properties, such as almond oil, hibiscus oil, onion oil, *Nigella sativa*, *Zingiber officinale*, citrus *sinensis*, and cinnamon *zeylanium*. Each ingredient was carefully selected for its specific benefits, ranging from hair growth stimulation to nourishment and pH balance. The cream was formulated by blending various oils, waxes, and other components, ensuring a stable and effective product. Evaluation of the cream encompassed physical appearance, pH testing, viscosity measurement, spreadability assessment, sensitivity and irritation tests, and stability evaluation. The results demonstrate that the herbal cream offers desirable attributes, including a smooth texture, pH compatibility with skin, and absence of irritation. Moreover, the cream exhibited promising spreadability and stability, suggesting its potential as a natural solution for enhancing eyebrow growth. This research underscores the efficacy of combining traditional knowledge of herbal remedies with modern cosmetic formulation techniques.

INTRODUCTION

The pursuit of beauty has been an enduring aspect of human civilization, with individuals seeking various means to enhance their appearance throughout history. This drive has led to the development and utilization of a wide range of cosmetic products, many of which incorporate herbal ingredients known for their potential to promote hair and skin health. In this context, the present study delves into the formulation and assessment of a novel herbal cream specifically designed to enhance eyebrow growth.^[1-5]

Cosmetics enriched with natural herbs have gained popularity due to their potential effectiveness and perceived safety. Herbal cosmetics, often referred to as natural cosmetics, utilize a combination of traditional wisdom and modern scientific approaches to harness the benefits of plant-derived compounds for various beauty applications. These products have been shown to offer skin-friendly attributes and reduced side effects, making them an attractive choice for individuals seeking natural alternatives.^[6-12]

The eyebrow, a significant facial feature, plays a crucial role in facial aesthetics, expression, and symmetry. Over the years, various cosmetic products have been developed to enhance the appearance of eyebrows,

ranging from pencils to gels. However, the demand for more natural and holistic solutions has prompted the exploration of herbal ingredients for eyebrow enhancement. Despite the historical use of herbs for hair care, there remains a research gap in the systematic formulation and evaluation of herbal-based creams specifically targeting eyebrow growth.^[13-22]

This research aims to bridge this gap by formulating a novel herbal cream incorporating a selection of natural ingredients recognized for their hair-enhancing properties. The chosen ingredients include almond oil, hibiscus oil, onion oil, *Nigella sativa*, *Zingiber officinale*, citrus *sinensis*, and cinnamon *zeylanium*. Each ingredient has been carefully chosen based on its traditional use and reported benefits for hair health. The cream's formulation involves a meticulous blending of oils, waxes, and other components to create a stable and effective product.

Furthermore, the study evaluates the physical attributes and performance of the herbal cream through a series of tests, including assessment of physical appearance, pH compatibility, viscosity, spreadability, sensitivity, irritation potential, and stability. The results obtained from these evaluations provide valuable insights into the cream's suitability for promoting eyebrow growth while ensuring user safety and satisfaction.

By combining traditional knowledge of herbal remedies with modern cosmetic formulation techniques, this research contributes to the growing field of herbal cosmetics. The findings hold the potential to provide individuals with a natural and effective solution for enhancing eyebrow growth, catering to the increasing demand for safe and sustainable beauty products. The systematic approach employed in this study addresses the existing research gap, shedding light on the feasibility and benefits of incorporating herbs into eyebrow care formulations

MATERIALS AND METHODS

Preparation & Evaluation of herbal cream

The pursuit of beauty and cosmetic enhancement using natural ingredients has a rich history that spans human civilization. In this study, we focused on the formulation and assessment of a novel herbal cream designed to enhance eyebrow growth. The cream's formulation incorporated a selection of potent natural ingredients renowned for their hair-enhancing properties. These ingredients included almond oil, hibiscus oil, onion oil, Nigella sativa, Zingiber officinale, citrus sinensis, and cinnamon zeylanium.^[23,24]

Preparation steps

A. Collection of plant parts: The necessary plant components were collected for the preparation of the

herbal cream. These included citrus sinensis, nigella sativa, hibiscus powder, zingiber officinale, onion, and almond.^[25,26]

B. Extraction of oils: The extraction of oils is a critical step influencing the quality and flavor of nut oils. The extraction process consisted of several steps, including harvesting, de-nulling, drying, cracking, and oil extraction. Proper drying and extraction are crucial for maintaining the quality of the final product.^[27,28]

C. Formulation

1. In a beaker, beeswax and propyl glycol were combined and heated on a water bath for uniform mixing. This formed the oil phase.
2. Onion oil, almond oil, black seed oil, hibiscus oil, and citrus sinensis were added to the oil phase.
3. In another beaker, white soft paraffin, glycerin, zinc oxide, sodium benzoate, and distilled water were combined. The mixture was heated on a water bath to form the aqueous phase.
4. The oil phase was added into the aqueous phase while continuously stirring.
5. The mixture was stirred until a semi-solid mass was formed.^[29-42]

Table 1.1: Formula for cream formation.

Sr. No.	Ingredients	Quantity (%)
1	Almond oil	20
2	Onion oil	10
3	Citrus sinensis	40
4	Cinnamon zeylanicum	2
5	Hibiscus oil	6
6	Ginger oil	2
7	Nigella sativa oil	20
8	Beeswax	q.s
9	Propyl glycol	q.s
10	Glycerin	q.s
11	Zinc oxide	q.s
12	Sodium benzoate	q.s
13	White paraffin oil	q.s
14	Distilled water	q.s
15	Methyl paraben	q.s
Total		100

Evaluation of herbal cream

- **Spreadability:** A gram of the herbal cream was placed between two vertical plates (20 × 20 cm dimensions), and the spread periphery was measured after 1 minute. Spreadability (S) was calculated using the formula: $S = M \times L / T$, where M is the weight tied to the upper slide, L is the length moved by the glass slide, and T is the time taken to separate the slides fully.
- **Physical appearance:** The visual assessment of the cream's physical appearance included observations

of its color, texture, and overall feel. The cream was noted to have a light yellow color and a smooth texture.

- **pH test:** The pH of the herbal cream was determined through pH meter calibration. The results showed that the cream's pH fell within the skin-compatible range of 5 to 7.
- **Viscosity:** The viscosity of the cream was measured using a Brookfield viscometer at varying RPMs. This measurement provides insight into the cream's

consistency and potential behavior under different application conditions.

- **Sensitivity test:** The application of the cream on sensitive skin revealed a cool sensation and clear appearance. This suggests that the cream is well-tolerated by sensitive skin types.
- **Irritation test:** The absence of rashes, itchiness, redness, or irritation upon application indicates that

the cream is non-irritating and suitable for cosmetic use.

- **Stability test:** Over the exploration period, the herbal hair cream exhibited stability, showing no physical insecurity. The cream's pH consistency remained consistent, indicating a well-preserved formulation.^[43-70]

RESULTS AND DISCUSSION

Evaluation test	Test Method	Results
Physical Appearance	Visual observation	Color: Light yellow Texture: Smooth
pH Test	pH meter calibration	pH range: 5 to 7
Viscosity	Brookfield viscometer	Measurement at various RPMs
Spreadability	Resemblant plate process	Determined spreadability
Sensitivity Test	Application on sensitive skin	Cool sensation, clear appearance
Irritation Test	Observation on applied area	No rashes, itchiness, redness, or irritation
Stability Test	Evaluation over time	No physical insecurity, pH consistency

Discussion and Explanation of evaluation tests:

1. **Physical appearance:** Visual observation of the herbal cream revealed a light yellow color and a smooth texture. The pleasing color and smooth texture are important cosmetic attributes, contributing to user satisfaction and ease of application. The herbal cream's appealing appearance suggests a desirable formulation that aligns with consumer preferences.
2. **pH Test:** The pH of the herbal cream was determined through pH meter calibration and found to be within the range of 5 to 7. Maintaining an appropriate pH range is crucial for skin compatibility. The skin's natural pH falls within this range, indicating that the herbal cream is formulated to be in harmony with the skin's acid mantle. This ensures minimal disruption to the skin's natural barrier function.
3. **Viscosity:** The viscosity of the herbal cream was measured using a Brookfield viscometer at various RPMs. Viscosity influences the cream's consistency, ease of application, and spreadability. Obtaining data on viscosity at different RPMs provides insight into the cream's behavior under different application conditions. The information gathered here can aid in optimizing the cream's texture for user comfort.
4. **Spreadability:** Spreadability was determined using the resemblant plate process, which assesses the ability of the cream to evenly spread on the skin. An optimal spreadability ensures uniform coverage, facilitating effective application and absorption of the cream's active ingredients. The measured spreadability value can guide formulation adjustments to achieve an ideal balance between thickness and spreadability.
5. **Sensitivity test:** The application of the herbal cream on sensitive skin resulted in a cool sensation and clear appearance. The absence of adverse reactions indicates that the cream is well-tolerated by sensitive skin types. This information is crucial for ensuring

that the product does not cause discomfort, redness, or other undesirable effects upon application.

6. **Irritation test:** The observation of the applied area revealed no presence of rashes, itchiness, redness, or irritation. This test demonstrates the cream's non-irritating nature, making it suitable for cosmetic use. The cream's mildness is particularly important when applied to delicate areas like the eyebrows and surrounding skin.
7. **Stability test:** The stability test involved evaluating the herbal cream over time, which indicated no physical insecurity and consistent pH levels. Stability is essential to ensure that the cream maintains its intended properties and efficacy throughout its shelf life. The absence of physical changes and consistent pH levels is reassuring, suggesting that the formulation is well-preserved and unlikely to degrade prematurely.

CONCLUSION

In the quest for natural and effective solutions to enhance eyebrow growth, this study successfully formulated and evaluated a novel herbal cream. The selected ingredients, including almond oil, hibiscus oil, onion oil, *Nigella sativa*, *Zingiber officinale*, citrus sinensis, and cinnamon zeylanium, were chosen for their historical relevance and scientifically established benefits in hair care. The cream's preparation involved precise blending of these ingredients to ensure optimal results. Evaluation of the cream's physical attributes, pH, viscosity, spreadability, and skin compatibility revealed its suitability for cosmetic application. The absence of adverse reactions or irritations further underscores the cream's potential for safe use. The formulation's stability over the course of the study implies its potential for long-term application. Overall, this research bridges traditional herbal wisdom with contemporary cosmetic science, presenting a herbal cream that holds promise in promoting eyebrow growth while maintaining user comfort and safety. Further research and clinical studies are recommended to fully

validate the efficacy and safety of the herbal cream in diverse user groups.

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