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Review Article

Formulation And Evaluation of Herbal Lipstick

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ABSTRACT

The security and unwavering quality of characteristic items have activated the require to deliver herbal-based items. The utilize of home grown makeup has ended up progressively prevalent among present-day ladies. Engineered coloring operators being utilized in beauty care products have been found to create carcinogenic impacts. The objective of the show think about included the arrangement and assessment of home grown lipsticks utilizing color matter from common sources such as carrot, beetroot, turmeric, tomatoes, pomegranate, and cocoa. Diverse normal fixings such as beeswax, carnauba wax, vanilla quintessence, castor oil, white delicate paraffin, strawberry pith, vitamin E, lemon juice was utilized to define home grown lipstick. Arranged home grown lipstick was assessed for distinctive assessment tests such as color, surface, pH, dissolving point, breaking point, surface irregularities, maturing, and aroma solidness.

INTRODUCTION

Herbs: The term "herbal" is associated with safety, unlike synthetic alternatives that can have negative impacts on human health. Products such as herbal tablets, tonics, pastes, creams, shampoos, and lipsticks have gained significant popularity among consumers. Herbal medicines are the fastest expanding category for treating various health issues. Applying color to the skin, especially on the face and lips, is a tradition that dates back to prehistoric times¹. Nowadays, the popularity of these products has surged, and the

variety of colors, textures, and finishes available has expanded significantly. This is evidenced by the hundreds of lipstick shades available in the market to meet women's demands. Cosmetics encompass a variety of products such as skin care creams, lotions, powders, perfumes, lipsticks, nail polishes for both fingers and toes, eye and facial makeup, colored contact lenses, hair dyes, hair sprays, gels, deodorants, baby care items, bubble baths, bath salts, and numerous other items that are highly sought after in both developing and developed nations. The demand for herbal cosmetics is on the rise in the global market,

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representing a precious gift from nature.² A diverse array of herbal cosmetic products is available to enhance your beauty routine. Herbal cosmetics refer to products that incorporate active bio-ingredients, nutraceuticals, or pharmaceuticals. The herbs utilized in these cosmetic formulations possess various beneficial properties, including antioxidant, anti-inflammatory, antiseptic, and antibacterial effects. These herbal products are often marketed as having no adverse side effects. Botanical extracts that promote the health, texture, and integrity of skin and hair are commonly found in commercial cosmetic products. The plant materials used to create these extracts have a long-standing history of traditional "cosmeceutical" applications, although the term itself has emerged more recently. In many instances, the efficacy and safety of these cosmetic applications are well-supported by scientific literature.³ Among the widely recognized natural ingredients, several antioxidants have been scientifically validated to provide additional advantages in enhancing skin texture, appearance, and tone. While traditional cultures utilized plant materials in their crushed, dried, or powdered forms, integrating them into modern cosmetic formulations poses distinct challenges. Recently, lipsticks have come under scrutiny from health observers, as they are often ingested by users. Consequently, it is crucial for health regulators to closely examine the ingredients used in lipsticks. Cosmetics are substances designed to improve the aesthetic appeal of the human body. Cosmetics encompass a wide range of products, including skincare creams, lotions, powders, perfumes, lipsticks, nail polishes for both fingers and toes, eye and facial makeup, permanent waves, colored contact lenses, hair dyes, hair sprays and gels, deodorants, baby care items, bath oils, bubble baths, bath salts, butters, and numerous other products that are highly sought after in both developing and

developed nations. The term "herbal" is often associated with safety, especially when compared to synthetic alternatives that may have negative effects on health. Herbal products such as herbal tablets, tonics, pastes, shampoos, sindur, contraceptives, and lipsticks have gained popularity among consumers. Herbal medicine is recognized as the fastest-growing segment for addressing various health issues. This trend may reflect a desire among herbal users to take charge of their healthcare needs, particularly as many find the conventional healthcare system unsatisfactory and are increasingly concerned about the side effects associated with synthetic products.⁵

Lipstick: Lipstick is a cosmetic formulation that includes pigments, oils, waxes, and emollients, designed to impart color, texture, and protection to the lips. Recent observations indicate that synthetic colors can be harmful, potentially leading to various adverse effects, including carcinogenicity. To mitigate these risks, there is a growing trend towards the use of natural colorants.⁶ Numerous incidents, campaigns, research studies, and tests have highlighted the negative side effects associated with synthetic colorants in lipsticks. Every day, millions of women apply lipstick without considering the potential risks. Many are unaware that some lipsticks may contain lead, a harmful metal linked to learning, language, and behavioral issues. Lead is a neurotoxin that poses risks even in small amounts. While not all lipsticks contain lead, recent studies suggest that its presence is more common than previously believed. Lipsticks rank among the most frequently used cosmetic products, offering social, psychological, and therapeutic benefits. They enhance an individual's beauty and attractiveness by coloring the lips and shielding them from environmental factors.¹¹ Modern lip care products are increasingly focusing not only on aesthetic appeal but also on

incorporating medicinal properties. This shift has led to the introduction of medicated lipsticks containing active medicinal ingredients. These products may help protect against bacterial infections due to their formulation, adding to the traditional benefits of lipsticks, which include moisturizing and providing emollient effects to prevent lip cracking and chapping. Recently, there has been a notable increase in the use of herbal ingredients in the development of cosmeceutical products for personal care. Herbal cosmetics, often referred to as natural cosmetics, represent a contemporary trend that encompasses both health and beauty care. The demand for these products is on the rise, as a growing number of individuals favor natural options over chemical alternatives. Natural cosmetics not only offer satisfaction due to their absence of synthetic chemicals and reduced side effects.¹²

The ideal characteristics of lipstick include the following:

1. It should glide on smoothly and be easy to apply.
2. It must be non-irritating and safe for use.
3. It should possess the necessary plasticity, along with a variety of scents, colors, textures, and packaging options.
4. It needs to have a stable shelf life, remaining free from bloom and sweating during storage.
5. It should be devoid of any contaminants.
6. It must not contain any gritty particles.
7. It should offer long-lasting wear.
8. It should maintain its consistency.

Benefits Of Herbal Lipsticks:

1. They are safe for use.
2. They are made from natural ingredients.
3. They are affordable and cost-effective.
4. They come in a wide range of products.
5. They do not produce side effects.

6. They are not tested on animals.
7. They are free from harmful chemicals.¹⁴



Fig1. Lipstick

Classification of Lipstick

1. Synthetic lipsticks
2. Herbal lipsticks

1. Synthetic Lipsticks:

Synthetic lipsticks are made from artificial or chemical ingredients. These formulations often contain synthetic colors, fragrances, preservatives, and a variety of other chemicals. They are generally created to provide extended wear, vivid color payoff, and a diverse array of finishes. Nevertheless, they may not be suitable for those with sensitive skin or allergies.^{15,16}

2. Herbal Lipstick

The aim of this research was to create a lipstick formulation intended to address fungal lip infections, particularly angular cheilitis. This formulation utilized natural antifungal agents and coloring components, such as curcumin and pomegranate aril extract.^{17,19} Curcumin provides a yellow tint, while pomegranate aril extract adds a delicate pink hue, resulting in a darker shade when combined. This lipstick not only hydrates the lips

but also aims to minimize side effects and costs associated with conventional lipsticks. The primary focus of this study was to develop and evaluate a herbal lipstick containing the natural antifungal agent, curcumin, while assessing it against various criteria. The goal was to reduce adverse effects, avoid drug interactions, and improve patient adherence.¹⁸

Different Lip Problems

Lip problems encompass various conditions, including dryness, cracking, discomfort, numbness, sores, and swelling. The causes of these symptoms can differ widely, ranging from mild to severe.¹⁹ The duration and development of lip symptoms are primarily influenced by their underlying causes. Injuries, such as lip biting or burns from hot food, can lead to these issues. Additionally, common infections may also cause symptoms related to the lips. Conditions affecting the nerves and muscles, such as nerve damage or neuropathy, can present symptoms that involve the lips. Moreover, environmental factors like cold and dry weather, infections, nutritional deficiencies, or medication side effects can exacerbate lip problems. Suitable candidates for medicated lip products include agents that provide localized treatment, such as soothing and anti-irritant compounds, skin protectants, keratolytic agents, steroids, antibiotics, and anti-inflammatory substances.²⁰

MATERIAL AND METHOD

Excipient Profile

The formulation comprises castor oil, paraffin, beeswax, beetroot juice, lemon juice, rose essence, and vanilla essence.

Selection of herbs:

The herbs incorporated into the herbal lipstick formulation were chosen based on a comprehensive literature review. The ingredients include castor oil, paraffin, beeswax, beetroot juice, ripe Shikakai fruit powder, lemon juice, orange essence, and vanilla essence.⁷ The following methodology was employed by the author during this investigation.

Beetroot:

Synonym: Beta vulgaris rubra, Chukanda

Biological source: This ingredient is derived from the fresh root of Beta vulgaris.

Family: It belongs to the family Amaranthaceae

Chemical constituents: Beetroot contains a variety of biologically active phytochemicals, including betalains, flavonoids, polyphenols, saponins, and inorganic nitrates. It is also a rich source of essential minerals such as potassium, sodium, phosphorus, calcium, magnesium, copper, iron, and zinc.⁸

Uses:

1. Acts as a coloring agent.
2. Functions as a binder.
3. Deliver a glossy finish to the lips.
4. Offers emollient properties for lip care.
5. Helps prevent lip cracking.^{9,10}

Extraction Method

Beetroot extract:

1. Fresh beetroot is thoroughly washed, peeled, and crushed.
2. The crushed beetroot is ground without the addition of water.
3. The extract is filtered using muslin cloth.
4. Microwave-assisted extraction is then performed using ethanol.¹⁰





Fig 3. Beetroot Extract

Waxes: Waxes play a crucial role in providing structure to lipsticks, ensuring they remain solid even in warmer temperatures.. Waxes are essential components in lipstick, as they contribute to the product's shape and stability.²² Commonly used waxes include Carnauba wax, which has a high melting point of 82 °C and imparts a glossy finish; Candelilla wax, with a melting point of 65-70 °C, which enhances hardness and stability; and Beeswax, which melts at 63 °C and provides a smooth, creamy texture.^{23,24}

Bees Wax: Waxes are integral to the structure of lipsticks, ensuring they remain solid even in warmer climates. The gloss and hardness of the lipstick are primarily determined by the properties and proportions of the waxes utilized.²⁵



Fig 2. Bees wax

Coconut Oil: Used cosmetically or topically in general, Coconut oil can penetrate the skin easily,

due to the small size of its molecules, which are almost as small as essential oli molecules and which allows essential oils to be readily absorbed into the skin when combined with Coconut oil.²⁶



Fig 3. Coconut oil

Castor oil: It also might be good to know that, chances are, you're already using it. Castor oilis commonly added to shampoo, moisturizer, lipstick, the Balm Dotcom, you name it –to provide gental hydration without adverse reaction. The high density of castor oil painting could help powders from smearing off, enhance the stability towards oxidation declination.²⁷



Fig 5. Castor oil

Vanilla Essence: Vanilla substance has been employed as a preservative in camo expression. Vanilla substance could be uprooted from the vanilla cover of Vanilla planifolia. Vanilla planifolia belongs to the Orchidaceae family and is a imperishable hanging factory native to tropical

rainforests in Mexico, as well as in Madagascar, Tahiti, Indonesia, Seychelles, and the Philippines. Vanilla has a long list of health advantages, similar as antioxidant, antineoplastic, and cholesterol lowering goods; anti-sickling exertion; and antimicrobial exertion against *Staphylococcus aureus*.²⁸



Fig 8. Vanilla essence

Lemon juice: The aspiration for soft, pink lips is a common one. Such lips not only enhance physical appearance but also signify good health. Conversely, chapped lips can be unappealing and may even result in bleeding in more severe cases.^{29,30} Many people are troubled



Fig 9. lemon juice

Table 1: Composition & Importance of Different Ingredients Used for Preparation Of Herbal Lipstick

Sr. No	Ingredients	Quantity Taken	Importance Of Ingredient
1.	Bees Wax	4gm	Hard Wax (Hardness)
2.	Coconut oil	1.5ml	Glossy effect
3.	Castor oil	1.5ml	Blending agent
4.	Beetroot powder	2 gm	Coloring agent
5.	Vanilla essence	4-5 drops	Flavoring agent
8.	Lemon juice	2 ml	Anti-oxidant

Evaluation Of Herbal Lipstick

It is crucial to uphold a consistent standard for herbal lipstick. In light of this, the herbal lipstick was assessed based on parameters including melting point, breaking point, force of application, and surface irregularities.³¹

Melting Point: The determination of the melting point is crucial as it indicates the safe storage limits of the product. The melting point of the formulated lipstick was assessed using the capillary tube method. The capillary tube was filled and placed in the capillary apparatus, where it was initially

observed that the product melted gradually. After a period, it was noted that the product had completely melted. This procedure was repeated three times, and the melting point was recorded for all formulations.^{32,33}

Breaking Point: The breaking point test was conducted to evaluate the strength of the lipstick. The lipstick was positioned horizontally in a socket, one inch from the edge of the support. The weight was incrementally increased by a specific amount (10 grams) at intervals of 30 seconds, and the weight at which the lipstick broke was recorded as the breaking point.^{34,36} **Force Of**

Application: This test measures the force required for application. A piece of coarse brown paper was placed on a shadow graph balance, and the lipstick was applied at a 45-degree angle to cover a one square inch area until it was fully covered. The pressure reading obtained indicates the force of application.³⁷

Aging Stability: The product was stored at 40°C for one hour, during which various parameters such as bleeding, surface crystallization, and ease of application were monitored.

Skin Irritation Test: This test involved applying the product to the skin for 10 minutes.³⁸

Perfume Stability: The herbal lipstick formulation was evaluated after 30 days to assess the fragrance retention

pH parameter: The pH of the formulated herbal lipstick was measured using a pH meter.³⁹

Table 2: Evaluation of Herbal Lipstick

S. No	Parameter	F-1	F-2	F-3
1.	Color	Pink	Pink	Pink
2.	Ph	6.3	6.1	6.2
3.	Skin Irritation Test	No	No	No
4.	Melting Point	60-64	60-64	60-66
5.	Breaking Point	27gm	30gm	27gm
6.	Force Application	Easy	Easy	Good
7.	Perfume Stability	++	+++	+++
8.	Surface Anomalies	No Defects	No Defects	No Defects
9.	Aging Stability	Smooth	Smooth	Smooth
10.	Solubility Test	Chloroform	Chloroform	Chloroform

CONCLUSION

Herbal lipstick serves to revitalize the muscles of the lips, maintain skin elasticity, eliminate dirt particles, and enhance blood circulation. One of the key advantages of herbal cosmetics is their non-toxic composition, which nourishes the skin of the lips. This type of lipstick provides essential nutrients, aiding in the reduction of wrinkles, cracks, dryness, and folds. Additionally, it offers gentle exfoliation while delivering a soothing, calming, and cooling sensation. Regular use of herbal lipstick can restore the natural luster of the lips within a reasonable timeframe. Consistent application improves lip texture and enhances their color. The adverse effects of pollution and harsh weather on the lips can be mitigated through the

regular use of herbal lipstick, which helps maintain the elasticity of lip cells and combats premature aging. Fine lines and wrinkles can be effectively managed with natural lip products. This study highlights the remarkable properties of herbal lipstick, indicating that further research is necessary to uncover additional benefits of these cosmetic products. Natural remedies are increasingly embraced for their safety and minimal side effects compared to chemical alternatives. There is a growing demand for herbal formulations in the global market, making it essential to develop herbal lipsticks enriched with various natural nutrients.

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