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Review Article on Preparation And Evaluation of Herbal Lip Balm

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Abstract: *The current study focuses on creating and assessing a herbal lip balm with natural ingredients like beet root, shea butter, rose oil, beeswax, and vitamin E. Rose oil naturally softens and nourishes lips. The herbal lip balm that relieves chapped lips and has anti-inflammatory qualities was developed and assessed. A uniform mixing process was used to create the lip balm. The lip balm was described as for spread ability, melting point, pH, and physical stability. It was discovered that the pH ranged from 5.5 to 6.5 and the melting found to be between 63 and 65°C. Stability tests were conducted at ambient temperature (25.0–3.0°C) and in the produced lip balm was shown to be consistent in nature and could be stored in a refrigerator (4.0–2.0°C) applied perfectly.*

Keywords: LIP BALM, NATURAL INGREDIENTS, SPREADABILITY

I. INTRODUCTION

A significant part of today's lifestyle is cosmetics. In addition, most businesses, including cosmetics, are currently moving toward a more natural lifestyle by going green. Natural remedies, herbal remedies, and natural foods are better choices for a healthy lifestyle. Additionally, there is a high need for organic plants goods. The personal care system has seen a significant surge in the usage of herbal cosmetics. Around the world, natural items have been utilized for traditional medical purposes for thousands of years. Numerous them possess pharmacological qualities including antimicrobial, anti-inflammatory, and cytostatic effects. They are known to be beneficial for human medicine. Plant extracts are a well-known brand in the horticultural industry and are grown all over the world. The popularity of plant-based cosmetics for skin and hair care stems from its dependability. There are several formulations of herbal cosmetics. Compared to synthetic medications with several adverse effects, herbal words demonstrate safety impacts on human health. Lipstick is a traditional way to add charm and improve the appearance of the lips.to the face's cosmetics. This has led to a revision in the selection of colour tones, textures, and lighting enlarged. This is evident in the hundreds of colours that are advertised for lipsticks, lip balms, and jelly lipsticks. to fulfil the requirements. Important biological active components for the skin are found in herbal cosmetics. to create and test every new range of cosmetics, lotions, soaps, scents, and other products, cosmetic corporations also employ specialized teams of scientists.

Lip balms are designed to be applied to the lips in order to shield them from the elements and avoid dryness. To make a formula for lip balm, it is essential to balance the concentration of essential components, such as oils, waxes, and butters, for the finished product to use and put to use. Lip colour can improve the appearance of lips and improve the overall the face's appeal. Lipstick and lip balm are among the most common makeup and lip care items. The lip care products' primary functions include moisturizing, protecting lips from damaging UV rays, and creating an attractive appearance. Lips have thin, distinct skin compared to other bodily parts. It lacks perspiration, sebaceous glands, and hair follicles. It doesn't have a built-in system to hold onto moisture or shield it from the elements. As a result, lips require greater attention, defence, and moisture preservation. Alas High-quality cosmetics may result in lip dryness, pigmentation, or discolouration. Particularly some lips are harmed by substances like menthol and phenol.

The anatomy of lips:

Lip anatomy consists of a number of structures that affect both the function and appearance of the lip. Here is a brief summary of the lips structure:

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Skin: The outer layer of the lips is skin, just like the rest of the body. Lip skin, on the other hand, is more delicate and thinner. The visible line dividing the vermilion-coloured portion of the lips from the surrounding skin is known as the vermilion border.

Vermilion zone: The reddish region of the lips is known as the vermilion zone. It is crimson in colour because it has more blood vessels than normal.

Philtrum: A vertical groove or indentation in the middle of the top lip that continues from the base is known as a philtrum.

Cupid's: The cupid's bow is the double curve or V-shaped area in the middle of the top lip.

Oral mucosa: The inner surface of the lips is protected by a thin, moist layer of tissue called the oral mucosa. It is separate from the outer skin and aids in maintaining the moisture of the lips. To keep the lips moisturized and to facilitate speech and eating, lips include small glands called labia.

Nerve ending: One of the many muscles that make up the lips and are in charge of their movement and expression is the orbicularis orris, which surrounds the mouth and facilitates smiling and puckering. Lips are extremely sensitive to touch, warmth, and pain due to their high density of nerve ending.

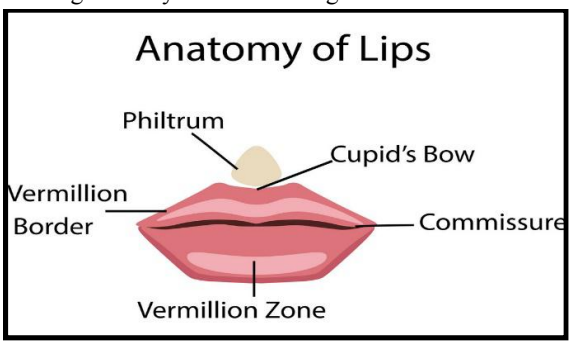

Fig 1.1: Anatomy of lips

Lips-related problems:

Several illnesses or problems may have an effect on the lips. These are some common lip-related problems:

Dry lips: Dry lips are a result of the lips drying out and losing moisture. This can be caused by environmental factors including cold temperatures, dry air, or particularly frequent lip-licking. Dry lips may feel tight, split, or even peel.

Chapped lips: Lips that are chapped can be painful, uncomfortable, and sometimes bleed. Lips that are chapped are a more severe kind of dryness. Chapped lips can be caused by prolonged dryness, the sun, wind or bad weather.

Cold sores: Cold sores and fever blisters are both small, painful blisters filled with fluid that appear on or near the lips. They are caused by the herpes simplex virus and are very contagious.

Inflammation / cheilitis: An inflammation and cracking of the corners of the mouth are signs of the condition known as angular cheilitis. It could be brought on by bacterial or yeast infections, a lack of nutrients or prolonged exposure to wetness. Infection of the lips can be brought on by bacteria, viruses, or fungi. Infection is indicated by swelling, redness, pain, and the emergence of pus-filled blisters or sores.

Allergies: Some individuals may develop allergies to specific ingredients in food, cosmetics, or lip care products. Allergy symptoms include swelling, itching, redness, and even lip blistering.

Lip discoloration: A variety of things, including sun exposure, smoking, some medications or underlying medical conditions, can alter the color of your lips. Lips may appear darker in this circumstance.

Advantages of Lip Balm:

Lip balm helps protect the health and natural beauty of the lips.

1. Sunscreen lip balm has been shown to block UV damage to the lips.
2. They are not gender-specific products and can be used by both men and women.

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3. Lip balm helps protect sore, chapped and dry lips.
4. The product in contact with the skin should not cause friction or dryness, and must form an even layer on the lips to protect the lip lining which is sensitive to environmental factors such as UV ray's drought and pollution.
5. It refreshes, refreshes and also treats lip related symptoms caused by colds, flu and allergies.
6. The use of natural lip cosmetics to treat skin appearance and condition.

Materials and Methods:

Materials:

Base	Oils	Colouring Agent	Flavouring Agent
Cocca butter	Coconut oil	Beetroot	Strawberry
Bees wax	Olive oil	Pomegranate	Honey
Shea wax	Almond oil	Marigold	Orange
Shea butter	Vitamin E oil	Tomato	Kesar
White bees wax	Peanut oil	Jabul	Raspberry
Yellow bees wax	Tea tree oil	Watermelon	Vanilla
Carnauba wax	Glycerine	Honey	Mango
Candelilla wax	Castor oil	Saffronn	Rose oil
Mango butter	Jojoba oil	Turmeric	Sandalwood
Avocado butter	Corn oil	Capsicum	Jasmin
Olive oil	Arachis oil	Cherry	Cherry
Jojoba oil	Lemon oil	Orange	Apple
Olive butter	Avocado oil	Strawberry	Lemon
Sweat almond butter	Sesame oil	Mango	Apricot

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Sweat almond wax	Sunflower oil	Carrot	Rosemary
Raspberry butter	Grape seed oil	Lemon	Pineapple

Table 1.1: List of ingredients

Fig. 1.2: Lip balm

Base:

waxes are a significant class of raw materials used in the production of cosmetics and personal hygiene items. Numerous items and industries use waxes. Their primary use is in candles, but they also have significant uses in the medicinal, cosmetic, and food sectors as emulsifiers and thickeners. In terms of chemistry, wax is a complex blend of fatty acids and hydrocarbons bound to esters. Compared to oil, waxes are more brittle, tougher, and less greasy. They have a high level of moisture resistance. bacteria and oxidation. Four varieties of waxes exist:

(a) Animal waxes, such as sperm, lanolin, and beeswax;

(b) Vegetable waxes, including jojoba, candelilla, and carnauba;

(c) Mineral waxes, such as ceresin, ozokerite, paraffin, and microcrystalline;

(d) Synthetic waxes: Stearon, Acrawax, Carbowax, and Polyethylene.

The three waxes most frequently found in cosmetics are candelilla, carnauba, and beeswax. Esters of fatty acids and fatty alcohols make up waxes. Jojoba oil is therefore a wax rather than an oil. Wax has a high melting point (50–100° C) on a physical level. Beeswax is the most common type of wax and works well as a thickening and emollient. Carnauba wax and candelilla wax are two more natural waxes that are frequently used in cosmetics. Both are They are more stable and appropriate for dry goods since they are tougher and have greater melting points. for instance, lip balm. The natural fat that gives lip balm its silky texture is called cocoa butter, which is present in cocoa beans. It will provide nourishment and because it includes antioxidants, it can help repair dry and chapped lips and hydrate them.

Oils:

Oils and fats have different physical forms; at room temperature, they are often solids. Triglycerides, another name for fats and oils, are glycerol esters, which are chemically composed of glycerol and fatty acids. The stability and nature of

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the oil are determined by the presence or absence of saturated or unsaturated acids. Oils that are Coconut oil, cottonseed, and palmitic, myristic, and stearic acids are examples of foods high in saturated fatty acid. oil as well as palm oil. High concentrations of unsaturated fatty acids, such as linoleic, arachidonic, and oleic acids, in oils are castor oil, avocado oil, safflower oil, almond oil, corn oil, olive oil, and canola oil. saturated fats are less prone to rancidity and more stable than unsaturated oils

On the other hand, unsaturated oils are more useful, smoother, less oily, and better absorbed by the skin. Shea butter, avocado butter, and cocoa butter are examples of natural butters that are actually natural fats rather than butter. Natural butters are generally great thickeners and emollients, and depending on the kind, they can possess a number of other qualities (such as the calming and antioxidant qualities of avocado and shea butter). Because of phenolic substances). for the oil combination and wax to create an appropriate coating on the lip skin that is being used. The perfect mixture is one that makes it easy for the product to spread and produces a well-covered, thin film.

Because of its well-known moisturizing qualities, jojoba oil can keep lips from drying out. However, goji berry oil is widely recognized for its ability to moisturize and condition the skin. Rosehip oil is a great way to preserve the skin's natural moisture equilibrium. One well-known antioxidant that has a significant part of lip balm bases. The skin is energized and revitalized with peppermint essential oil. Essential oil of cinnamon is a great antioxidant. The skin is soothed and nourished by lavender essential oil. for dry lips, grapefruit essential oil is calming and revitalizing. Almond oil has a light-yellow colour and a mildly distinctive smell.

Colouring agents:

The primary purpose of dyes or colorants is to add distinctiveness to cosmetic goods. Since ancient times, colour has been utilized in cosmetics. In essence, the need to purchase a cosmetic item is governed by the three senses: touch, scent, and sight. Colour is therefore a crucial component in cosmetics formulations. There are two methods to give lips colour years. By using a dye to tan the skin that penetrates the lips' outer layer, b. By applying a layer of colour to the lips that helps conceal any offers the skin a smooth appearance and reduces roughness.

It must be a specific chemical substance since only then can its colouring be relied upon, making its dosage more convenient and straightforward. It should have a strong enough tinctorial (dyes) such that a small amount is all that is needed. The dye needs to be resistant to hydrolysis, light, temperature, and microorganisms, hence it needs to be preserved steadily. Oxidizing or leaking dyes must not lower agents and pH variations, nor should they obstruct assays and testing. In addition to colours that are soluble in alcohol and oil, water-soluble colorants are also recommended. The majority of Compatibility with other substances and medications is a crucial characteristic of colorants. It can't have the Cashmere wool has an unpleasant taste and smell, and it needs to be affordable and easily accessible. Examples of natural dyes made from turmeric, saffron, beetroot, and other plants. The dried pistil of the Cross Sativus Linn plant is used to make saffron. This perennial shrub is cultivated in India's Kashmir region. Additionally, Spain grows it. Iran, Greece, and France. Crocin is the primary colouring ingredient in saffron. The yellow powder known as crocin is a naturally occurring glycoside that dissolves easily in water.

Flavouring agent:

The four fundamental taste perceptions are typically obscured by flavours or flavouring chemicals. Taste is a multifaceted experience that combines the senses of taste, touch, smell, sight, and hearing. physiological and physicochemical processes that influence how food is perceived. substances. With the as technology in the taste sector has advanced, a large number of synthetic or false flavours have been produced. It is more of an art than a science to create a flavour that is acceptable. Flavours are chosen according to the taste of the medication or additional components included. Distinct flavour versus mask flavour. The scents of lip balms must not include any potentially harmful or irritating chemicals. this ought to taste good and be able to cover off the oily odour of the base.

Flavouring agents are a necessary component for both producing a pleasing flavour and covering up the odour of oils or waxes. They are frequently utilized in formulations with concentrations between 2 and 4%. The flavour must to be consistent and work well with the lip balm's other components. The tastes ought to not be overpowering or in conflict with other flavours that go well with lip balm.

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Fruit Perfumes with flavours have also been promoted. You can also use something edible. Frequently utilized Apricot, strawberry, raspberry, cherry, honey, and so forth are among the flavours. It is possible for honey to act as a natural food preservative.

Method of preparation:

The following procedures are part of the lip balm production:
Cosmetics must adhere to stringent safety regulations thus raw materials undergo quality testing.
Ingredients are dosed, heated, melted, and blended (this pertains to certain installation procedures and equipment).
The lipstick separation phase involves processing this mixture under vacuum.
The combination takes around 48 hours to solidify.
The concoction has melted.
The mixture is formed by cutting it into the appropriate shapes.
It comes in packaging (a box contains the lipstick).

Evaluation parameters:

The texture

The AMETEK Brookfield CT-3 Texture Analyzer's base was filled with the lip balm sample. Since a cylindrical probe (TA39) is the best probe for cosmetic goods, it was affixed to the load cell. (Food Technology Corporation, 2019; Cosmetics Industrial Applications). After that, the probe was lowered a few The lip balm sample should be centred millimetres above the cylinder probe. values for hardness were noted. for every sample of prepared lip balm.

Colour

The Konica Minolta Chromameter CR-400 was used to assess the lip balms' colour analysis. These three indicators used by chromameter determine the brightness (L*), redness (a*), and yellowness (b*) of the examined sample. all beet-based lip balms are more likely to cause redness, which is correlated with an a* rating, based on these three factors.

PH

In this investigation, the pH of each lip balm formulation was measured using the Model HI-2211-01 pH meter. The meter for pH was first calibrated using a buffer solution before the lip balm's pH was measured. How much the lip balm is worth the sample was measured and documented. The produced lip balm at ambient temperature (25.0 ± 3.0 ºC) was found to and at 4 ± 2.0 ºC in the refrigerator. 69°C was the average melting point. The pH was 7.2 on average, which is equivalent to a pH that is almost neutral.

Melting Point

The melting point was determined using a Melting Point instrument (Veego, India). Briefly, one end of the capillary tube was sealed; formula is fed from one end into the capillary to a certain height. The capillary is introduced into the melting point apparatus and the temperature at which the molten mass is recorded.

Spreadability Test

Spreadability is determined using a slide. The formulation is sandwiched between two blades and a load is applied; the recipe has been spread on the slides. Visual observations were made regarding the uniformity of the layer formation.
For this test, the following criteria have been established:
G – Good: homogenous
I – Moderate homogeneity; leaves few stops
B – Bad: uneven

Stability Test

The formulation of the lip balm has been evaluated for stability for 30 days under various temperature conditions mainly room temperature (25±2° C), higher temperatures in the oven (40±2° C) and refrigerator (5±2° C). Characteristics such as organoleptic properties and Spreadability were evaluated on days 7, 15, and 30.

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a. Preliminary Stability Test

Formula evaluated on preliminary stability tests including physical properties (color, odour and appearance) and flow testing. Since this formula does not cause any physical or balance changes, it has been tested for normal stability.

b. Normal Stability Study

An amount of 25 g of the substance has been prepared for routine stability testing, where the physical properties (colour, odour, and appearance), flowability and the melting point was evaluated for 5 days at room temperature. Samples are well preserved.

Here's How to Apply Lip Balm for the Best Protection:

Step 1: Open the lid of the container. If the balm is in a tube, you only need to lift it about half an inch. If it's in the container, apply a pea-sized amount to your finger.

Step 2: Apply to lower lip. Rub the balm onto your lower lip, along the outside.

Step 3: Apply to upper lip. Rub the balm onto your upper lip, along the outside.

Step 4: Rub your lips together. Rub your upper and lower lips together. This helps distribute the balm evenly throughout your mouth.

II. CONCLUSION

Formulation stored at room temperature and in the refrigerator showed similar stability. Stable organoleptic properties and spreadability are considered "good". Storage of the under these conditions is considered appropriate because the product's functionality is maintained. In the stability test, a lip balm made with natural ingredients had a suitable melting point of (64° C average). According to the spreadability test, furnace storage conditions (40.0±2.0° C) is not recommended due to loss of product functionality compared to normal stability testing. It was concluded that lip balms made from natural ingredients were safe to use and this combination was considered a better choice in creating a lip balm. Whether the formulation was kept at ambient temperature or in a refrigerator, it demonstrated the same stability behaviour. It was determined that the spreadability was "good" and that the organoleptic characteristics were stable. Storage under these conditions was deemed sufficient because the product's functionality was maintained. With a sufficient melting temperature (mean of 63°C), the lip balm made from natural ingredients passed the stability test.

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