Formulation and Evaluation of Lip balm Prepared Using Various Herbal Entities

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***Abstract* — Cosmetics that replicate the effects of pharmaceuticals or prescription medications are called cosmeceuticals. These cosmetics are manufactured with ingredients that are physiologically active. A study was conducted on the design, ingredients, and calibre of lip balm made from natural ingredients. In this study, several ingredients were utilised to manufacture lip balm, including Impatiens *balasmina*, coconut oil, aloe vera, vitamin E, and Impatiens balsa mina essence. Through uniform mixing, the lip balm was created. Testing was accomplished by putting the lip balm mixture on a glass slide. Multiple criteria, such as chemical stability, pH melting point, and spread ability, were utilised to examine lip balm. It was discovered that the melting point ranged between 63 °C and 65 °C and a pH of 5.0 and. The developed lip balm was shown to be uniform in nature, apply perfectly and remain undamaged at the surrounding temperature and refrigeration (40.0°C 2.0°C) after completing stability tests in a refrigerator (4.0 °C 2.0 °C) and at normal temperature (25.0 °C 3.0 °C). Lip balm prepared from the previously mentioned components may be more effective for treating a variety of lip problems.**

Index Terms - Herbal Lip balm, Evaluation, Formulation, Natural ingredients.

INTRODUCTION

Various formulations are included in herbal cosmetic products. Herbal products are safer than synthetic ones, which can have a variety of harmful effects on human health. Lip colouring is an age-old technique for enhancing lip beauty and adding a glamorous touch to face makeup.

The history of lip balm can be traced back to earwax, and Charles Browne Fleet began commercializing it in the 1880s. More than 40 years before Swift introduced lip balm to the market, Lydia Maria Child suggested in her enormously popular book The American Girl that chapped lips might be treated with earwax.

Natural herbal ingredients are used in the production of herbal lip balm. It is intended to hydrate and shield the lips from chapping and drying. Because herbal lip balms are manufactured with natural components and frequently lack synthetic chemicals and preservatives, many individuals prefer them over conventional lip balms.

Protecting the lips from UV damage, lowering inflammation and irritation, and avoiding cracking and peeling are just a few advantages of using herbal lip balm. Due to the use of essential oils, herbal lip balms can also produce a calming and calming aroma.

Using herbal lip balm to nourish and protect your lips from the weather is a healthy and efficient approach to take care of your lips.

LIP BALM

Both men and women use lip balm as a cosmetic to keep their lips in good condition. It is intended to protect the damaged lips from sores and cold sores while preserving the contour and look of the lips. When making lip balms, the concentration of the essential ingredients, such as butters, oils, and waxes, must be balanced. Depending on the proportion of wax, oils, and colours, the composition will display different qualities.

Characteristics of herbal lip balm:

Natural components: Herbal lip balm is made with herbs, plant extracts, and essential oils. These ingredients are frequently organic, non-toxic, and free of flavourings, colourings, and preservatives made artificially.

Healing and soothing: Herbal lip balm includes herbs that repair and relieve dry, chapped lips. Beeswax,

shea butter, and cocoa butter, for example, create a barrier that locks in moisture and guards against further harm to the lips.

Nourishing: Natural oils and moisture in the lips are restored by the nourishing elements in herbal lip balm. Coconut oil, jojoba oil, and vitamin E oil are examples of ingredients that provide moisture and nutrients that support healthy lips.

Multi-functional: In addition to treating viral infections and fever blisters, herbal lip balm may also protect the lips from the sun's harmful rays. Using herbal lip balm to take care of your lips is a simple, kind, and efficient way for doing this.

APPLICATION OF HERBAL LIP BALM

Lip balms are products that are applied to the lips to stop dryness and offer protection from harmful environmental elements. There is little information on this type of formulation in the cosmetic information available, currently mentions to lipstick are relevant because it is a cosmetic form like to lip balm. In order to create lip balms, the concentration of the primary ingredients, such as butters, oils, and waxes, as well as various excipients, must be balanced. A natural method to maintain the development of healthy lips is by using natural lip balms.

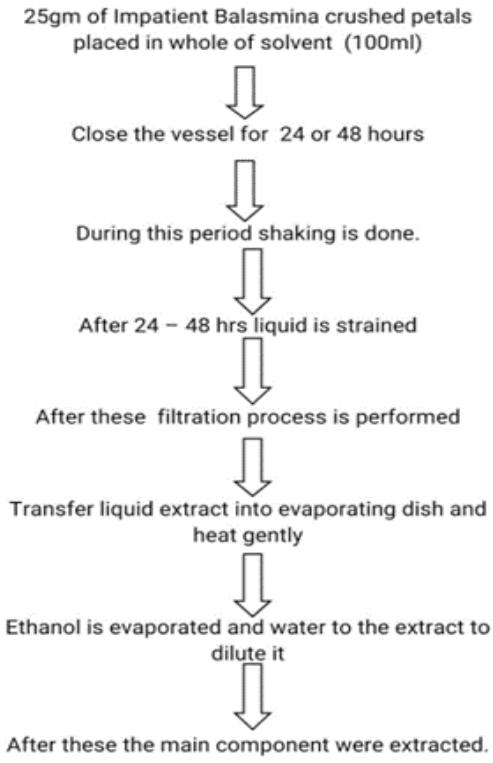
Sr. No	Name of ingredient	Manufacture / Company
1	Bees Wax	Loba Chemie Pvt.Ltd.
2	Ghee	Local Market Kolhapur
3	Castor oil	Research Lab fine chem. Industries
4	Honey	Local Market kolhapur
5	Vanillin	Molychem Pvt.Ltd.
6	Vitamin E	Local Market Kolhapur

MATERIALS

Table no.1-Material for Herbal Lip Balm

METHODS OF EXTRACTION

EXTRACTION OF *Impatient balasmina*



Flowchart of Extraction

CARROT JUICE EXCTRACTION:

Fresh carrots are taken and their upper layer is removed by the help of peeler. The peeled carrot is grated evenly then the mixture was poured into a fine muslin cloth and was squeezed to separate the juice from the seeds. The juice was collected from the beaker and stored for the further use.

Formulation table –

INGREDIENT	F1	F2	F3
Bees wax	5gm	6gm	5gm
Ghee	4gm	1gm	2gm
Coconut oil	15ml	15ml	10ml
Honey	2.5ml	5ml	5ml
Vanillin	0.08gm	0.08gm	0.08gm
Impatient Balasmina extract	15ml	15ml	20ml
Carrot extract	2.5ml	3ml	4ml
Vitamin E	2.5ml	1ml	2ml
Water	Q.S	Q.S	Q.S

Table No. 2 – Formula For Herbal Lipbalm

Fig. no. 1

METHOD

Weigh all the excipients. Take 2gm ghee, 5gm beeswax,15 ml Coconut oil and melt it separately in water bath at 55°C -60 °C. Take 5ml honey and vitamin E into beaker and mix vigorously so that honey will not clump. Add 15 ml extract of Impatiens balsamina and add 4 ml of carrot extract. add vanillin flavour. Pour the content into the moulds. Before pouring the mixture in moulds; on the mould applying glycerine with the help of cotton. Put the filled moulds into ice bath for 10 min. Composition of lip balm is given in Table.

EVALUATION OF LIP-BALM

Organoleptic properties

The organoleptic characteristics of lip balm, such as colour, odour, taste, and appearance, were investigated.

Melting point

Melting point is one of the key parameter to identify the drug and its crystalline state. Moreover, variation in melting point gives the clue of drug substance purity. Melting point of formulation was determined by open capillary tube method. Formulation was placed in capillary tube that was attached with thermometer. The whole assembly was kept in paraffin bath and rise in temperature was observed. The point at which formulation started melting was noted. The experiment was performed in triplicate. The mean melting point was considered as the melting point of formulation.

Test of spread ability

In order to visually inspect the uniformity in the development of the protective layer and determine if the stick split, broke, or warped during application, the spreadability test is conducted by repeatedly applying the product at room temperature to the glass slide. The analyst developed the following criteria for this test:

G - Good: consistent, flawless application, no fragmentation, and no lip balm distortion.

I - Intermediate: consistent, few leaves that are fragmented, proper application, and minimal lip balm deformation.

B- Inconsistent, leaves a lot of pieces, is applied improperly, and causes lip balm to distort.

pH measurement

To check for any potential negative effects, the lip balm's pH was measured. It was decided to maintain the pH of the lips neutral because an acidic or alkaline pH could cause irritation. formula as unbiased as it is possible to be. 1gm of the material was dissolved in 100ml of water to study the pH value. A pH metre was used to measure the pH.

Stability studies

Organoleptic characteristics, melting point, pH, and spread ability of prepared lip balm were evaluated for testing and the expediting of stability experiments over a 30-day period at room temperature (25°C), refrigerated (5°C), and oven temperature (40°C).

Breaking Point

The strength of Lip balm was assessed using the breaking point method. The lip balm was positioned inch from the edge of the support and held horizontally in a socket. The weight was increased progressively by a predetermined amount (10 gm) at predetermined intervals of 30 seconds, and the weight at which it broke was regarded as the breaking point.

Skin irritation test:

It is carried out by applying product on the skin for 10 min.

Perfume stability:

The formulation herbal lipstick was tested after 30 days, to record fragrance.

RESULT

Sr. No.	Evaluation Parameter	Observed Value

1.	Melting Point	63°C -65°C
2.	Organoleptic Properties	-
2.1	Colour	Orange
2.2	Odour	Pleasant
2.3	Appearance	Smooth
3.	Test of Spread ability	-
4.	pH Measurement	5.0
5.	Skin Irritation	No
6.	Breaking Point	29gm

Table No. 3 Evaluation Parameter & Result

DISCUSSION

The main goal of the formulation was to use as many natural ingredients as possible to preserve the natural properties of lip balm because ordinary lip balm frequently contains toxic ingredients like petrolatum, synthetic waxes, alumina, parabens, hydrogenated oils, artificial fragrances, and colours. Impatiens balsamina was used to create natural colour that is additionally less hazardous than manufactured colour. A melting point test, a pH measurement, a test for spread ability, and stability studies were performed on the prepared lip balm. The pH was determined to be 5.0, and the melting point was discovered to be between 63°C and 65 °C. Test results for spread ability were G- Good: consistent, no fragmentation; smooth application, with no lip balm deformation. After completing of the lip balm's stability studies at various temperatures, it was discovered that the lip balm at room temperature (25.0°C to 3.0°C) and refrigerator (4.0°C to 2.0°C) displayed Good: uniform, no fragmentation; perfect application; and no deformation of the lip balm, while Intermediate: uniform; leaves few fragments; appropriate application; and minimal deformation of the lip balm at oven temperature (40.0°C to 2.0°C).

CONCLUSION

The formulation displayed the same stability behaviour whether stored in a refrigerator and at room temperature. The spread ability was determined to be "Good" and the organoleptic properties were constant. Because the product's functioning was preserved, storage under these parameters was considered sufficient. The lip balm manufactured with natural materials passed the stability test with a suitable melting point (mean of 64°C). When compared to the usual stability test, the spread ability test indicates that the storage condition of an oven (40.0°C to 2.0°C) is not suggested due to a loss of product functioning. It was determined that lip balm composed of natural substances is safe to use and that this combination is a better choice for lip balm formation. Excipients can be changed, or they can be combined in different manners, to create a new formulation with a unique and improved quality. According to the recent studies, the formulation should continue to be stable.

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