

“Formulation and Evaluation of Herbal Lipsticks Using Different Herbs”

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ABSTRACT: Cosmetics are the substances which are used to enhance the appearance of the human body. One of the most commonly used cosmetics is lipsticks. Lipsticks are used to enhance the beauty of lips and give a pleasant appearance. Current scenario synthetic colors are widely used which has many side effects. Ancient people were using roots and herbs for preparing cosmetics which proved to be safe to humans. In present study natural coloring agents were extracted from the plant source like roots of *Beta vulgaris*, flowers of *Bougainvillea glabra*, fruits of *Basella rubra*, flowers of *Ixora coccinea* and seeds of *Bixaorellana*. These lipsticks were manufactured by using different natural excipients like olive oil, coconut oil and castor oil by melting process. The formulated lipsticks were then evaluated for its physic chemical evaluation such as melting point, hardness, spreadability, surface anomalies, perfume stability, solubility, pH, etc. The present study demonstrates that all the formulated lipsticks with different shades of color using different herbs shown their best results.

KEY WORDS: Herbal Lipstick, Annatto, Beetroot Lipstick, *Ixora Coccinea*

I. INTRODUCTION

The term Cosmetic derived from Greek word Kosmetics which means pertaining to cosmesis or beautifying substance. Cosmetics are substances used to enhance the appearance of the human body. Cosmetics include skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup, permanent waves, colored contact lenses, haircolors, hair sprays and gels, deodorants, baby products, bath oils, bubble baths, bath salts, butters and many other types of products are in great demand in both developing and developed countries.

Herbal cosmetics have growing demand in the world market and are an invaluable gift of nature. There are a wide range of herbal cosmetics

products to satisfy your beauty regime, adding herbal in cosmetic is very safe for skin. Human being have been using herbs for different purpose like food, medicine, beautifying with advancement of science & technology use of natural things including plant has been reduced except for food, vegetarian takes plant& plant only. However there is resurgence of use of herbs both as drug and cosmetics. [1]

Coloring lips in an ancient practice date back to prehistoric period. In present days the use of product has increased and choice of shades of colors textures, lustrous, have been changed and become wider. This can observed from the facts that lipstick is marketed in hundred of sheds of colors to satisfy the demand for the women. Due to various adverse effects of available synthetic preparation the present work was conceived by us to formulate a herbal lipstick having minimal or no side effects which will extensively used by the women of our communities with great surety and satisfaction. [2]

Herbal lipsticks are used to impart an attractive color, texture and protects to lips. Lipstick is a cosmetic product containing waxes, oils, pigments and dyes, alcohol and fragrance, preservatives and antioxidants, colors, surfactants. These lipstick preparations do not damage to our lips and no side effect. They involve a colors change as well as shine and smooth out of wrinkles and folds on lips. It is a most famous cosmetics items and available in different styles, design and packaging of lipstick. Lipstick having many advantages it should be protects lips from dryness and cracking. It brightens your smile and provides hydration to our lips. It should be free from grittiness should be non-drying required plasticity. In herbal lipstick many natural nutrients are available which are safe for lips.

Herbal lipsticks having ideal characteristic:

- It is smooth and easy to apply.

- It is non-irritant and non-toxic.
- It should have required plasticity, different odor, color, texture and packaging etc.
- It is stable in shelf life time and it is free from bloom and sweating during storage of lipstick.
- It should have required plasticity.
- It should be stable both physically and chemically.
- It should not dry on storage.
- It should be free from greatly particle.
- It should maintain lip color for longer period after its application.
- It should give shiny and smooth appearance free from sweating.
- It should have pleasant taste, odor and flavor.
- It should not melt or harden within reasonable variation of climatic temperature. [3]

Different types of lipstick and their uses:

You can find various kinds of lipsticks and they can be utilized based on your mood or shape of one's lips. Today's lipstick market contains number of products with many effects and characteristics. Below are a few forms of lipsticks with basic characteristics.

1. **Moisturizing Lipsticks:** Individuals who have dry lips should use moisturizing lipsticks as it keeps lips soft and smooth. These lipsticks moisturize lips due to ingredients like vitamin E, glycerin and aloe. Other great things about using moisturizing lipsticks are wet and very shiny lips.
2. **Satin and Sheer Lipsticks:** These lipsticks also moisturize and nourish lips and ensure it is shiny and glossy. Sheer and satin lipsticks have high oil ingredients and they could appear darker in the package than they are on lips. Another characteristic of lipsticks with oil components is that it must be reapplied many times.
3. **Mate and Lipstick:** Mate lipsticks are perfect selection for women who are seeking colorful and nice shade. These lipsticks have affectation of flat and not shiny lips. Your lips will look smother and younger with matte lipstick. Plus it is advised to mix products with vitamin E and aloe with mate lipsticks.
4. **Cream Lipstick:** Women who'd small lips should use cream lipsticks. Lipstick with cream formula is not shiny, but it's smooth influence on lips. You need to use lip gloss afterward for desire look.

Cream lipsticks contain more wax to be able to protect lips, but also cause aftereffect of dry lips.

5. **Pearl and Frosted Lipstick:** Frosted lipstick makes lips sparkle and glisten. Pearl and frosted lipstick reflects light and makes very shiny effect on your own lips. Negative effects are that could cause lips feel heavy, crack and dry. It is advised to moisturize your lips before utilize this lipsticks.

6. **Gloss Lipstick:** Gloss is extremely popular lipstick for girls with thin and small lips because make lips shine and improve the dimension of depth. Gloss may be along with traditional lipstick.

7. **Long Wearing and Transfer Resistant Lipsticks:** Women who don't have time to utilize Lipstick frequently may use long wearing lipstick. These lipsticks have formula that keep lips look perfect from 4-8 hrs. They're resilient and soon you eat something greasy or oily. Many of them contain moisturizer to balance the dryness of lips. [4]

II. MATERIALS AND METHODS

COLLECTION OF PLANT MATERIALS

The Materials used in the present study that is Seeds of Bixa Orenalla (Annatto) & Basella Rubra (Malbar Spinach), Flowers of Bougainvillea Glabra (paper Flowers) & Ixora Coccinea (Nooru varahalu Flowers), Beta Vulgaris (Beet Root) were Collected from Nearby Areas and dried in shade for 5 days and powered for Further use.

EXTRACTION PROCESS

EXTRACTION OF BIXA ORENALLA SEEDS

The shade dried coarsely powdered seeds of Bixa orellana (150 gms) were extract with Methanol (60-80°C) for 18 hrs.

After completion of extraction, the defatted extract was filtered while hot through Whatman filter paper (No.10) to remove any impurities if present.

The extract was concentrated by vacuum distillation to reduce the volume to 1/10; the concentrated extract was transferred to 100 ml beaker and the remaining solvent was evaporated on a water bath.

Dark reddish coloured extract was obtained. The concentrated extract was then kept in desiccators to remove the excessive moisture. The dried extract was packed in air tight glass container for further studies.



EXTRACTION OF MALBAR SPINACH FRUITS

Extraction of pigment was done by homogenization of equal ratio of fruits and solvents (1/1 w/v). Typically 100 g of fruits, of watery consistency, was shacked and macerated with 100

ml solvents (EtOH, aqueous ethanol 50:50) for 15 mins using ice cooling condition. Aqueous mixture was then centrifuged at 18,000 rpm and 4°C for 20 min followed by filtration on nylon mesh. Ethanol was completely removed after concentration process and samples were kept in a dark vessel.



The shade dried coarsely powdered flower petals of the *Bougainvillea spectabilis* (100 Gms) were macerated for 7 days separately. After completion of extraction, the extract was filtered through Whatman filter paper (No.10) to remove any impurities if present. The extract was concentrated by vacuum distillation to reduce the volume and evaporated on a water bath. Dark reddish coloured extract was obtained. The concentrated extract was then kept in desiccators to remove the excessive moisture. The dried extract was packed in airtight glass container for further studies.

EXTRACTION OF PAPER FLOWERS



EXTRACTION OF BETA VULGARIS

The pulp (50 g) was mixed with (15%) aqueous ethanol in different peel-to-solvent ratios (0.2, 0.6, 1.0 w/v). The extraction processes were carried out with a thermostat water bath maintaining temperature at 20 °C, 35 °C, 50 °C and three different operation times (1 h, 3 h, 5 h) with stirring at 215 r.p.m. After centrifuging the extracted juices for 25 minutes at 6000 r.p.m., the coloured supernatant was collected and kept under refrigeration prior to instrumental analysis.



EXTRACTION OF IXORA COCCINEA FLOWERS

The shade dried coarsely powdered flower petals of the *Ixora coccinea* (100 gms) were macerated for 7 days separately. After completion of extraction, the extract was filtered through Whatman filter paper (No.10) to remove any impurities if present. The extract was

concentrated by vacuum distillation to reduce the volume and evaporated on a water bath. Dark reddish coloured extract was obtained. The concentrated extract was then kept in desiccators to remove the excessive moisture. The dried extract was packed in airtight glass container for further studies. [5]



FORMULATION OF HERBAL LIPSTICK

The herbal lipstick was formulated as per general method of lipstick formulation. In this formulation, white bees wax, coconut oil, olive oil, were melted in porcelain dish on water bath with decreasing order of their melting point. Extracted coloring matters of different herbal fruits and flowers were mixed with Castor oil and heated. Both phases were mixed at same temperature.

Vanilla & strawberry essence and lemon juice and vitamin E were added at 35°C. Then mixture was poured into lipstick mould in excess amount and mould was kept on ice bath. After solidification surplus amount was scrapped with blade. Lipsticks were removed from mould and flamed. Prepared Lipsticks were fitted in Lipstick container and used for further evaluation.

THE FORMULATION OF HERBAL LIPSTICK

S. No	INGREDIENTS	F1	F2	F3	F4	F5	ROLE
1	Bees wax	5g	5g	5g	5g	5g	Thickening Agent
2	White Hard paraffin	5g	5g	5g	5g	5g	Base
3	Castor oil	3 ml	3 ml	3 ml	3 ml	3 ml	Moisturizing agent
4	Olive oil	5 ml	5 ml	5 ml	5 ml	5 ml	Moisturizing agent
5	Coconut oil	10 ml	10 ml	10 ml	10 ml	10 ml	Moisturizing agent

6	Lemon juice	5 ml	5 ml	5 ml	5 ml	5 ml	Flavouring Agent
7	Vitamin E capsules	q.s	q.s	q.s	q.s	q.s	Antioxidant
8	Strawberry essence	q.s	q.s	q.s	q.s	q.s	Antioxidant
9	Beta vulgaris	10g	-	-	-	-	Colouring agent
10	Bixa orellana	-	10g	-	-	-	Colouring agent
11	Bougainvillea glabra	-	-	10g	-	-	Colouring agent
12	Ixora coccinea	-	-	-	10g	-	Colouring agent
13	Basella rubra	-	-	-	-	10g	Colouring agent

EVALUATION OF LIPSTICKS

It is very essential to maintain a uniform standard for herbal lipstick, keeping this view in mind the formulated herbal lipsticks was evaluated on the parameters such as melting point, breaking point force of application, surface anomalies etc. [6]

MELTING POINT

Determination of melting point is important as it is an indication of the limit of safe storage.

The melting point of formulated lipstick was determined by capillary tube method, the capillary was filled and keep in the capillary apparatus and firstly observed the product was slowly-slowly milted.

After sometime observed product was completely melted. The above procedure was done in 3 times and the melting point ratio was observed in all formulation.



BREAKING POINT

Breaking point was done to determine the strength of lipstick.

The lipstick was held horizontally in a socket inch away from the edge of support.

The weight was gradually increased by a specific value (10gm) at specific interval of 30 second and weight at which breaks was considered as the breaking point.



FORCE OF APPLICATION

It is test for comparative measurement of the force to be applied for application. A piece of coarse brown paper kept on a shadow graph balance and lipstick was applied at 45° angle to cover a 1 sq. Inch area until fully covered. The pressure reading is an indication of force of application.

SURFACE ANOMALIES

This was studied for the surface defects, such as no formation crystals on surfaces, no contamination by moulds, fungi etc.

AGING STABILITY

The product was stored in 40°C for 1 hrs. Various parameters such as bleeding, crystallization of on surface and ease of application were observed.

SOLUBILITY TEST

The formulation herbal lipstick was dissolved in various solvents to observe the solubility.

PH PARAMETER

The pH of formulated herbal lipstick was determined using pH meter.

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. [7]

FORMULATION RELATED PROBLEM

SWEATING

It is the most common problem of lipstick formulation due to high oil content or inferior oil binding. It may rise in any climate or temperature range.

BLEEDING

This refers separation of colored to the liquids from the waxy base.

STREAKING

A thin line or band of a different color or substances appears on the finished product. [8]

MOLDING RELATED PROBLEMS

LADDERING

Lipstick does not look smooth or homogenous after congealing and setting but instead has a multi-layered appearance.

DEFORMATION

This is a molding problem where the shape of the lipstick looks deformed. It is noticeable and appears on both sides of the lipstick. [9]

III. RESULTS

All the required material was collected and the different colored pigments were extracted as per the procedure. Then the herbal lipsticks were formulated as per general method of lipstick formulation using different color extracts from the plants chosen. Total 5 lipstick formulations were formulated named as F1, F2, F3, F4 and F5.

Beta Vulgaris Lipstick (F1)



Ixora Coccinea lipstick (F4)



Bixa oreanalla Lipstick (F2)



Malbar Spinach Lipstick (F5)



BougainVillea Glabra Lipstick



Evaluation of lipsticks

Formulation	Melting point*(°C)	Breaking point* (g)	Force application* of	Surface anomalies
F1	65	30	Good	Not found
F2	58	30	Good	Not found
F3	62	32	Good	Not found
F4	64	31	Good	Not found
F5	57	33	Good	Not found

n*=3

Formulation	Aging stability	pH	Skin irritation*	Perfume stability
F1	Good	6	Not found	Good
F2	Good	6	Not found	Good
F3	Good	6	Not found	Good
F4	Good	6	Not found	Good
F5	Good	6	Not found	Good

n*=3

Formulation	Sweating	Bleeding	Streaking	Laddering	Deformation
F1	Satisfactory	Not found	Not found	Not found	Not found
F2	Satisfactory	Not found	Not found	Not found	Not found
F3	Satisfactory	Not found	Not found	Not found	Not found
F4	Satisfactory	Not found	Not found	Not found	Not found
F5	Satisfactory	Not found	Not found	Not found	Not found

IV. SUMMARY AND CONCLUSION

- ❖ The work was done by formulation different herbal lipsticks using different ingredients to produce the colors like the Seeds of Bixa Orenalla (Annatto) & BasellaRubra (Malbar Spinach), Flowers of Bougainvillea Glabra (Paper Flowers) & Ixora Coccinea (Nooru varahalu Flowers), BetaVulgaris (Beet Root) were collected from nearby areas and dried in shade for 5 days and powered for further use.
- ❖ The lipsticks were prepared by using different oils like olive oil, coconut oil, castor oil, beeswax and white soft paraffin which give proper shape and elegant look and also strength to the lipsticks.
- ❖ Strawberry essence and Vanilla essence were added to give the pleasant fragrance to the lipsticks.
- ❖ Vitamin E capsules which acts as anti-oxidants were used in the preparation to protect the lipsticks from the oxidation and other spoilage of the formulations.
- ❖ Total five lipsticks were formulated and the lipsticks were found satisfactory by testing different evaluation tests like melting point, breaking point, force of application and the results were in the limits.

- ❖ All the prepared lipsticks were evaluated for Surface anomalies, Aging stability, Solubility test, pH, Skin irritation and perfume stability tests. The results were found to be satisfactory and passed all the evaluated tests.
- ❖ The 5 lipsticks were tested for Formulation Related Problems like Sweating, Bleeding and Streaking tests and found no such problems were observed during the formulation and after the formulations were prepared.
- ❖ The prepared lipsticks were tested for molding related problems like Laddering and Deformation the results were found to be satisfactory.
- ❖ The lipsticks formulated using different herbs produced different colored lipsticks i.e. Beetroot given Red color lipsticks, Bougainvillea Glabra given Pink color shade, Ixora Coccinea given light red color lipsticks, Basella Rubra given light pink color shade and Bixa Orenalla has given orange shade to the lipsticks.
- ❖ The work was concluded that all the formulations were found to be satisfactory and produced different color shades.

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