



Review on Formulation and Evaluation of Herbal Lipstick Using Red Spinach

¹Mr. Abhijit Prakash Pawane, ²Mr. Khan. Z. K.

¹Student, LNBCIOP, Satara

²Principal, LNBCIOP, Satara

ABSTRACT:

Colouring skin particularly skin of face & lips is an ancient practice going to back to prehistoric period. In present days the use of such product has increased and choice of shades of colour, texture and luster have been changed and become wider. This can be observed from the fact that lipsticks are marked in hundreds of shades of colour to satisfy the demand of women. The present investigation was done to formulate herbal lipstick by using natural colours since lipsticks are one of the key cosmetics to be used by the women. Attempt was also made to evaluated the formulated herbal lipsticks. Due to various adverse effects of available synthetic preparation to present work was conceived to formulate herbal lipstick having minimal or no side effects.

The use of lipstick gained considerable importance in recent years & several cosmetics industries increased marketing with different shades of colours to meet the demands of women. In the present study made an attempt to formulate lipsticks that contain only natural ingredients using extract of leaves of Red Spinach. Formulation are prepared & evaluated.

Key Words – Herbal lipstick, Natural colour, Extract, Red spinach, Evaluation.

OBJECTIVES-

1. To extract pigment from Red Spinach plant by using appropriate solvent.
2. To prepared lipsticks by using natural colouring agent.
3. To evaluate the formulated lipstick.

Introduction:

The word herbal is a symbol of safety in contrast to the synthetic one which has adverse effects on human health. Herbal preparation viz, herbal tablet, herbal tonic, herbal shampoo, & herbal lipstick have become popular among the consumer. Herbal medicines represent the fastest growing segment to heal the various ailments. The demand of herbal cosmetics in increasing sleeply as they are skin friendly with no side effects. Normally herbal cosmetics are referred to as natural cosmetics (Saha 2006). Human skin was acts as protective barrier through which natural ingredients penetrate. Therefore, consumers always search for natural- based cosmetics to avoid allergic reaction and any sort of side effects. According to D&C act 1940 and rules 1945, cosmetics means any article intended to be sprayed, poured, rubbed or sprinkled on or introduced into or applied to the human body or its any part for cleansing, beautifying, promoting attractiveness or altering appearance. Cosmetics are the substance used to enhance the appearance of human body. Cosmetics include skin care creams, lotion, powders, perfumes, lipstick & facial makeup, hair colour & baby products & many more products are in great demand & are an invaluable gift of nature. Herbal cosmetics are the preparation, which represents cosmetics associated with active bioingredients, nutraceutical or pharmaceuticals.

Lipstick is a lip colouring agent that has its earliest use dating back to the prehistoric age. At present, popularity of this product increased and choice of its shades, texture and luster become very demanding. Many colors and types of lipstick exist. Some lipsticks are also lip balms, to add both color and hydration.

Amaranth species are cultivated and consumed as a leaf vegetable in many part of world. Four species of *Amaranthus dubious* cultivated vegetables in eastern Asia; *Amaranthus cruentus*, *Amaranthus blitum*, *Amaranthus dubius*. Lipstick is a cosmetic product containing pigment, oil, waxes and emollient that applies color, texture, and protection of the lips.

Different Types of Lipstick and Their Uses: [6]

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.

Types 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 re-applied many times.

3. Matte Lipstick:-

Matte 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 smoother and younger with matte lipstick. Plus it is advised to mix products with vitamin E and aloe with matte 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 desired 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.(1)

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. (2)

Plan of Work:

Sr. No.	Months	Work Done
1	April/ May	Literature Survey
2	May/ June	Formulation and Evaluation of lipstick
3	June/ July	Result Conclusion, Typing

Literature Survey:

1) Meher Dipali, et. al. [2011]

Herbal cosmetics have growing demand in the world market and are an invaluable gift of nature. There are a wide range satisfy your beauty regime, adding herbal in cosmetics is very safe for skin. Human being have been herbs for different purpose like food medicine, beautifying with advancement of science and technology use of natural things including plant has been reduced except for food, vegetarian takes plant and plant only. However there is resurgence of use of herbs both of drug and cosmetics. (15)

2) Pooja Mishra, et.al. [2012]

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 colour, texture, lustrous, have been changed and become wider. This can be observed from the facts that lipstick is marketed in 100 shades of color to satisfy the demand for the women which will extensively use by the women of our communities with great surety and satisfaction. (16)

3) Rautela Sunil, et.al. [2013]

Cosmetics include skin-care creams, lotions, powders, perfumes, lipstick, fingernail, eye and facial makeup, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants, baby product, bath oils, bubble baths, bath salts, butters and many other type of product are in great demand in both developing and developed countries. The present investigation was done to formulate herbal lipstick, since lipstick are one of the key cosmetics

to be used by the women. Due to various adverse effect of available synthetic preparation on the present work was conceived by us to formulate lipstick having minimal or side effect.(17)

4) Swati Deshmukh, *et.al.* [2013]

Now a day, in the whole world there is turn to return towards the use of herbal products and to adopt more natural way of life. People prefer natural food, herbal cosmetics, medicine and natural curing practice for healthy life, there is much craze for the vegetables products cultivated organic farming without using synthetic fertilizers and pesticides. The use of herbal cosmetics has been increased to many folds in personal care system and there is a great demand for the herbal cosmetics. Natural products have been used for folk medicine purposes throughout the world for thousands of years. (18)

5) Farida Hayati, *et.al.* [2016]

Cosmetics with natural ingredients are believed to be safer than chemical based cosmetics; in addition, natural cosmetics have the ability to protect the skin from ultra-violet rays. One of the widely use cosmetics nowadays is lip color in the form of better known as lipstick which can also serve as both natural and chemical. The development of natural cosmetics ingredients must be accompanied by efforts to improve the quality of raw materials used in the extract".(19)

Contents:

Background of present investigation:

FORMULATION AND EVALUATION OF HERBAL LIPSTICK:

Lips Anatomy and Structure- Lips are soft, movable body part at the mouth of humans and helps for the intake of food and speech. "Labium superius ores" and "Labium inferius ores", are the upper and lower lips respectively. The meeting point where the lips joint the surrounding skin of smooth area is the vermilion border and reddish area within the border is called the vermilion zone. Cupid's bow is the vermilion border of upper lips. The fleshy protuberance located in the center of the upper lip is a tubercle. Lips do not content sweat glands and sebaceous glands so, lips are entirely free from fat.(3)

Fig: 1 Lips Anatomy.

Ideal Characteristics of Good Lipstick:

1. It should be non - irritant.
2. It should have required plasticity.
3. It should non-toxic.
4. It should be stable both physically and chemically.
5. It should not dry on storage. (4)
6. It should be free from greatly particle.
7. It should maintain lip color for longer period after its application.
8. It should give shiny and smooth appearance free from sweating.
9. It should have pleasant taste, odor and flavor.
10. It should not melt or harden within reasonable variation of climatic temperature. (5)

Advantages of lipsticks –

1. Lipsticks protect and moisturize your lips.
2. Lipsticks make you look healthy and well.
3. Medicated lipstick should be protect lip from dryness and cracking.
4. It should be protect from sores and swelling.
5. Lipsticks provide hydration to the lips.

Marketed brands of lipstick-

- 1) MAC.

- 2) Huda beauty.
- 3) Glossier.
- 4) L'Oreal.
- 5) Maybelline.
- 6) Lpsy.
- 7) Avon.
- 8) Wet and wild.
- 9) Moart Velvet.
- 10) Lakme.

Constituents of lipsticks:

The functions of waxes are to give structure to the lipstick and keep it solid, even in warm climates. Glossy & hardness of lipstick are largely dependent on the characteristic & quantity of the waxes used.

Paraffin Wax:



Fig No: 2 Paraffin wax

Paraffin Wax structural backbone of much cosmetics formulation. It can add hardness to lip care formulations & increase the viscosity of emulsion product. Paraffin wax is a byproduct of mineral oil manufacturing. In cosmetics the use of paraffin wax imparts structure of formulation. The structure generally leads us rigid, brittle product which needs in be modified with oils & other waxes. The single largest use of paraffin wax in cosmetics is in colour cosmetics i.e. lipsticks, lip balms, mascaras, eye shadow. It shows strong oil adsorption Properties.

Bees wax:



Fig No: 3 Bees wax

A useful material to bind oils & higher melting point waxes. Higher concentrations give a dull waxy appearance & cause the stick to crumble during use. Bees wax traditional Stiffening agent for lipstick & extensively used Melting point is 62-64 degree Celsius. Bees Wax is a substance that forms structure of a honeycomb, Bees wax converts nectar into wax, Building honeycomb to store their honey. It has a honey like aroma & can be distilled into Fragrance.

Olive oil:**Fig No: 4 Olive Oil**

Oil in lipstick provides comfort, lubrication during application, and contributes greatly to the Cosmetic effect. They may also provide brilliance and subtlety. Olive oil is used as key ingredients in a wide variety of soaps, creams, lotions, shampoos and other cosmetics products. But it can also by itself to moisture and nourish dry skin and chapped lips, to Strengthen weak and brittle nails, to restore and beautify hair and scalp.

Colouring agent:**Fig . No. 5 Red spinach extract**

Colouring agents are added to cosmetics in order to colour the cosmetic itself and /or to impart colour to the skin. Colorants are specially used to give a distinctive appearance to the pharmaceutical dosage forms.

Perfume:**Fig No 6: Rose Essence**

Fragrance exerts a substance and powerful influence in determining consumer acceptance of a lipstick. Perfume oil must be carefully selected to be free of irritating effect and without disagreeable taste. Their fragrance should over effectively any fatty order originally present in the base, and any such dour that may developed after reasonable storage and use. It is tasteless, non-irritating and compatible

Experimental work:

Materials and Method:



Fig No: 7 Red Spinach.

Using Red spinach In Cosmetics:

The flowers of the 'Hopi Red Dye' amaranth were used by the Hopi (a tribe in the western United States) as the source of a deep red dye. Also a synthetic dye was named "amaranth" for its similarity in color to the natural amaranth pigments known as battalions. This synthetic dye is also known as Red No. 2 in North America and E123 in the European Union.

Plant information- Red spinach scientific classification -

- 1) **kingdom**-plantae
- 2) **subkingdom**- Tracheobionta
- 3) **Division**- Magnoliphyta
- 4) **super division**- Spermatophyta
- 5) **class**- Maghnoliosida
- 6) **Sub class**-Caryophyllidae.
- 7) **Order**- Caryophyllales
- 8) **Family**- *Amaranthaceae*
- 9) **Genus**- *Amaranthus*.L
- 10) **Species** – *Amaranthus cruentus*

BIOLOGICAL SOURCE - Spleen Amaranth is a plant species. It belongs to economically important family *Amaranthaceae*.

GEOGRAPHICAL SOURCE - The plant is native to South America and was introduced to Asia, Europe and Africa. In Tamilnadu the plant is known as Araikeerai

USES-Amaranth leaves in general are recommended as a good food with medicinal properties for young children, lactating mothers and for patient with fever.

Formula for Herbal lipsticks-

INGREDIENTS	F-1	F-2	F-3
Olive oil	6.5 ml	6.5 ml	6.5 ml
Carnauba wax	1gm	1gm	1gm
Bees wax	1.5gm	1.5gm	1.5gm

Lanolin	1ml	1.5ml	1.5ml
Cetyl alcohol	0.5ml	0.5ml	1.5ml
Red spinach extract	1 ml	3ml	5ml
Rose essence	0.01	0.01	0.01

Table 1: Formula for Herbal Lipsticks

Method of preparation:

A. Extraction process-

The Extraction was done by using the soxhlation method. Place about 25.0gm of coarsely powdered air-dried material, accurately weighed, were Subjected to successively hot continuous extraction (soxlet) with methanol solvent Specified for the plant material for 18 hours, after extraction residue obtained. Residue Stored at 0-4 degree Celsius.(6)



Fig No: 6 Extract of Red spinach

B. Preparation of Herbal lipstick :

- 1) Colour pest was prepared by using olive oil and *Amaranth* color. All the waxes like a carnauba wax, bees wax were arranged in the increasing order of their melting point.
- 2) Waxes were melted and the colour pasts along with the lanolin were added in the melted wax melting point.
- 3) After lowering the temperature perfume were added in the mixture.
- 4) This molten mass was poured in prelubricated mold and kept in the refrigerator for 15 min lipstick were removed from the mould and fixed in two container Performing various evaluation test of prepared lipstick, Place the lipstick in lipstick container and store. (6)



Fig No: 7 Herbal lipsticks

Evaluation of Herbal Lipstick:

1) 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 fitted, kept in the capillary apparatus and observed the Product was slowly melted. After sometimes the product observed was completely Melted (7)

2) Breaking point –

The breaking point test is to determine the strength of lipstick place lipstick Horizontally in a socket inch away from the edge of support. Increases the weight by Specific values (10 gm.) at a specific interval of 30 seconds and weight at which Breaks in considered as the breaking point .(8)

3) Force of application -

It is test for comparatively measurement of the force to be applied for application. A Piece of coarse brown paper can be kept an a shadow graph balance and lipstick can Be applied at 45° angle to cover 1 sq. Inch area until fully covered. The pressure Reading in an indication of force of application. (7)

4) Surface anomalies -

This is studied by the surface defects, such as no any formation of crystals on the Surface and no contamination by mould, fungi etc. (9)

5) Aging stability –

The product was stored at 40°C at 1hrs. Various parameters such as bleeding, Crystallization on the surface and ease of application were observed.(10)

6) Solubility test -

The formation of herbal lipstick was dissolved in various solvents like acetone, Hexane, petroleum ether, water, alcohol etc. & the solubility was observed.(11)

7) pH parameters –

The pH of formulated herbal lipstick was determined using standard pH paper. (12)

8) Skin irritation test –

It is carried out by applying the product to the skin for 10 min.(13)

9) Perfume stability-

Perfume stability can also be assessed by storing lipstick in oven at 40°C and by Making periodic comparison of perfume with fresh lipstick (14)

EVALUATION PARAMETER	F-1	F-2	F-3
Color	Faint pink	Nude	Brownish pink
Skin irritation test	No	No	No
Melting point	60-61	59-60	61-63
Breaking point	27	30	27
Perfume test	++	+	++
Surface anomalies	No defect	No defect	No defect
Aging stability	Smooth	Smooth	Smooth
pH	6.5	6	6.5
Solubility	Alcohol	Alcohol	Alcohol

TABLE NO: 2 EVALUATION TABLE OF HERBAL LIPSTICK

RESULTS AND DISCUSSION:

The present work formulation and evaluation of herbal lipstick was aimed to formulate lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones. The prepared formulation [Table No-3] was evaluated [Table No-4] and it was found that the herbal lipstick Batch F-3 was best among the three formulations

Hence, from present investigation it was concluded that this formulated herbal lipstick has better option to women with minimal side effects though a detailed clinical trials may be done to access the formulation for better efficacy.

EVALUATION PARAMETER	F-1	F-2	F-3
Color	Faint pink	Nude	Brownish pink
Skin irritation test	No	No	No
Melting point	60-61	59-60	61-63
Breaking point	27	30	27
Perfume test	++	+	++
Surface anomalies	No defect	No defect	No defect

Aging stability	Smooth	Smooth	Smooth
pH	6.5	6	6.5
Solubility	Alcohol	Alcohol	Alcohol

Conclusion:

The Study concluded that herbal lipstick can be successfully formulated using different natural ingredients such as white bees wax, castor oil, coconut oil, olive oil, White soft paraffin, vanilla essence, Vit. Peppermint oil, Red spinach extract and lemon oil. It is also concluded the use of natural colorants in lipstick formulation having very less or no side effect. Thus, the prepared lipstick can take safe and effective. Synthetic colouring agents may cause allergic reactions and be found to be carcinogenic. The ability to desire the right cosmetics for you depends on accurate ingredient knowledge, body Prakriti assessment, personal needs, customer perception about the product, and benchmark product. The present work formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones. The prepared formulation was evaluated and it was found that the Herbal lipstick **Batch F3** was best among 3 formulation.

References:

- 1) Nileshwari P. Chaudhari*, Harshada A. Chaudhari, Namarata U. Chaudhari, Laxmi A. Premchandani , Amitkumar R. Dhankani, Dr. Sunil P. Pawar, Formulation And Evaluation Of Herbal Lipstick From Beta Vulgaris Taproot, Indian Journal Of Drugs, 2019, 7(1), 14-19.
- 2) <http://www.mavenchic.in/blog/different-types-of-lipstick-and-their-uses/>
- 3) A Textbook Of Cosmetics By Rajesh Kumar Nema, Kamal Singh Rathore, Bal Krishna Dubey. Page No 70-71.
- 4) Nileshwari P. Chaudhari *, Namarata U. Chaudhari, Harshada A. Chaudhari, Laxmi A. Premchandani, Amitkumar R. Dhankani, Dr. Sunil P. Pawar, A Review On Herbal Lipstick From Different Natural Colouring Pigment, Indian Journal Of Drugs, 2018, 6(3), 174-179.
- 5) Rajesh Kumar Nema, Kamal Singh Rathore, Bal Krishna Dubey; Text Of Cosmetics. 1sted. New Delhi (India): Cbs Publishers & Distributors; 2009. P.69-81.
- 6) Mona Patel, Ojash Patel , Formulation And Evaluation Of Herbal Lipstick Using Beta Vulgaris Extract , International Ayurvedic Medical Journal, (June 2021), 1176-1180.
- 7) Bharat Vishwakarma *, Sumeet Dwivedi, Kushagra Dubey And Hemant Joshi, Formulation And Evaluation Of Herbal Lipstick, International Journal Of Drug Discovery And Herbal Res Earch (Ijddhr) 1(1): Jan-Mar: (2011), 18-19.
- 8) Rautela Sunil, Tailor Chandra Shekhar, Badola Ashutosh, Formulation And Evaluation Of A Herbal Lipstick : A New Approach, International Journal Of Pharmaceutical Erudition, May 2013, 3(1), 26-30.
- 9) Pandit Deepika , Gujrati Aditi , Rathore K S, Formulation And Evaluation Of Herbal Lipstick From The Extract Of Papaya, Int. J. Pharm. Sci. Rev. Res., 63(1), July - August 2020; Article No. 18, Pages: 107-110.
- 10) Pallavi S. Karanje , Rajendra C. Doijad , And Rohit R. Bhosale, Formulation And Evaluation Of Herbal Lipstick Containing Amaranthus Cruentus Linn, International Journal Of Research And Analytical Reviews, March 2020, Volume 7.
- 11) Dwivedi Sumeet, Dwivedi Sangeeta And Patel P.C. Formulation, Evaluation And Antimicrobial Activity Of Herbal Lipstick, In Recent Advances In Prospects And Potential Of Medicinal Plants, Ed. S. N. Dwivedi, Gayatri Publication, Rewa, (2009). 39-43.
- 12) Richa Kothari, Bhavya Shukla, Divya Gautam, Minisha Bagaria And Akansha Sharma, Formulation And Evaluation Of Herbal Lipstick From Natural Edible Coloring Matter, International Journal Of Theoretical & Applied Sciences, (2018), 10(1): 17-20.
- 13) Pavani C., Rajeswari B., Akshara K., Ravali K., Red-Dy P., Formulation And Evaluation Of Herbal Lipsticks From Rosa Kordesii, Int. J. Sci. Res. Rev., 2019, 8(9), 29-36.
- 14) Abhijeet A. Aher, Shripad M. Bairagi , Preeti T. Kadaskar Swapnil S. Desai , Pradeep K. Nimase, Formulation And Evaluation Of Herbal Lipstick From Colour Pigments Of Bixa Orellana (Bixaceae) Seeds, International Journal Of Pharmacy And Pharmaceutical Science, 2012, Volume 4, 357-359.
- 15) Meher Dipali , Alai Manoj, Nikam Shreya , Department Of Pharmaceutics K.E.S. Rajarambapu College Of Pharmacy, Kasegaon , Ijrap, 2011 , 2(6), 1795-1797.
- 16) Pooja Mishra And Sumit Dwivedi , Department Of Pharmacognosy Ujjain, Asain Journal Of Medical And Pharmaceutical Research , 2012, 2(3), 58-60.
- 17) Rautela Sunil, Tailor Chandra Shekhar, Badola Ashutosh, Formulation And Evaluation Of A Herbal Lipstick : A New Approach, International Journal Of Pharmaceutical Erudition, May 2013, 3(1), 26-30.

- 18) Swati Deshmukh , Manisha Chavan, Alard College Of Pharmacy Marunge , International Journal Of Pharma And Bioscience, 2013 ,4(3), 139-144.
- 19) Farida Hayati And Lutfi Chabib , Pharmacy Department Indonesia , International Journal Of Pharmay And Pharmaceutical Science.

Expected Outcomes:

1. To understand extraction method.
2. To know about formulation process of herbal lipstick on Red Spinach plant.
3. To give information regarding evaluation parameter of herbal lipstick.

Mapping with POs:

Program Outcomes:

- | | |
|----------------------------|-------------------------------------|
| PO 1: Pharmacy Knowledge | PO 2: Planning Abilities |
| PO 3: Problem Analysis | PO 4: Modern tool usage |
| PO 5: Leadership skills | PO 6: Professional identity |
| PO 7: Pharmacist ethics | PO 8: Communication |
| PO 9: Pharmacist & society | PO 10: Environment & sustainability |
| | PO 11: Lifelong learning |

Example

