

Formulation and Evaluation of Herbal Lipstick

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Abstract- The demand of herbal cosmetics is increasing steeply as they are skin friendly with no side effects. Normally herbal cosmetics are also referred to as natural cosmetics. (Saha 2006) Herbal cosmetics are formulated by preparing a natural base first in which one or more natural ingredients are incorporated properly. Herbal cosmetics are the most recent trend in the field of beauty and fashion. These beauty products supply proper nutrients, enhance health and ensure user satisfaction compared to the synthetic cosmetics. Human skin acts as protective barrier, through which natural ingredients penetrate. Therefore, consumers always search for natural-based cosmetics to avoid allergic reactions and any sort of side effects. Lipstick is a lip coloring agent that has its earliest use dating back to the prehistoric age. At present, the popularity of this product has increased, and the choice of its different shades, textures and luster has become very demanding. The present work aimed to formulate herbal lipsticks by using various natural ingredients like concentrated juice of pomegranate seeds, dried ginger powder, lemon juice, coconut oil, beeswax, paraffin wax, strawberry essence, vanilla essence, and so on. The formulated herbal lipsticks was evaluated and various parameter such as colour, melting point, breaking point, force of application, PH, skin irritation test, aging stability, were determined and reported.(1)

INTRODUCTION

HERBAL LIPSTICKS:

The word herbal is a symbol of safety in contrast to the synthetic one which has adverse effects on human health. Herbal preparations viz., herbal tablets, herbal tonics, herbal paste, herbal shampoo, herbal sindhur, herbal contraceptives and herbal lipstick has become

popular among the consumer herbal medicines represent the fastest growing segment to heal the various ailments. 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, hair colors, 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. 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, lustier, have been changed and become wider. This can observed from the facts that lipstick is marketed in hundreds of shades of colors to satisfy the demand for the women. In recent time's lipsticks have been under the scanners of many health watchers. Lipsticks are often eaten away by the user and hence it is imperative that health regulators have a microscopic look at the ingredients that go in to the lipstick. The dyes that contribute to the color of the

lipstick are dangerous to humans on consumption. In a mild form, the coal tars that are the basic ingredients from which synthetic dyes are formed can cause allergy, nausea, dermatitis, and drying of the lips. In a more severe form they can be carcinogenic and even fatal. Due to various adverse effects of available synthetic preparation the present work was conceived by us to formulate a herbal lipstick having minimal.(2)

DEFINITIONS:

Lipstick is a cosmetic product containing pigments, oils, waxes, and emollients that applies color and texture to the lips. • It is most widely used cosmetic item by the women to give an attractive colour and appearance to the lips. There are many varieties of lipstick. Lippy is a common British word for lipstick. • These are usually manufactured as moulded sticks and consists of colouring pigment dissolved in fatty base containing wax.(3)

1.1 Characteristics of Ideal Lipsticks:

1. Characteristics of Lipsticks Should cover lips adequately Long last effect
2. Make lips soft Must adhere firmly to lips without being brittle & tacky Good degree of quality
3. Completely free from grittiness Non- drying
4. Non- irritating to skin of lips
5. Desirable degree of plasticity
6. Free from sweating Shiny
7. 7)smooth appearance
8. Easily applicable & removable
9. Stable both physically & chemically
10. Should have high retention of colors intensity without any change in shades
11. Pleasant odor & flavor(3)

Advantages of Natural Lipsticks over existing Synthetic ones

1. Herbal colours are non-toxic, highly lipophilic, antioxidant and anti-microbial anti-inflammatory and are used in leucoderma more particularly of lips.
2. Colorant has different original shades of colours from purplish red, ruby red, beetroot purple, dark violet, pastel red, pale red, purplish red, rose red, deep majenta, dark purple, orange, deep violet.
3. From these colours, by different combinations, further shades can be obtained.

4. Colour may be changed to different shades with organic and inorganic acids and bases.(4)

Natural Colouring Agent

1. The colouring agent is derived from the coloured pigments of Beta vulgaris taproots. The beetroot, also known in as the table beet, garden beet, red or golden beet, or informally simply as the beet, refers to any of the cultivated varieties of beet (Beta vulgaris) grown for their edible taproots.
2. Beetroot is an excellent source of folate and a good source of manganese, and contains red coloured compound betaines which may function to reduce the concentration of homocysteine, a homolog of the naturally occurring amino acid cysteine as high circulating levels of homocysteine may be harmful to blood vessels
3. The original betaine, N,N,N-trimethylglycine, was named after its discovery in sugar beet (Beta vulgaris) in the 19th century. It is a small N-trimethylated amino acid, existing in zwitterionic form at neutral pH. This substance is now often called glycine betaine to distinguish it from other betaines.
4. Anthocyanins are water-soluble pigments primarily responsible for the attractive red–purple colour of pomegranate juice 39 .It contains chief constituents such as punicalagin, punicalin, gallagic and ellagic acids 40 . It also contains alkaloids like isopelletierine

1.2 FORMULATION- a) Waxes b) Oil c) Colour d) Preservatives e) Fragrance f) Antioxidants g) Surfactants

a) WAXES:-The gloss & hardness are generally depends on characteristics & quantity of waxes Best characteristic is obtained by using mixture of waxes of different m.p& adjusting the final m.p. by incorporating a sufficient amount of high m.p. wax. Example. Beeswax, Paraffin wax

b) OILS: Oils -: oil mixture is required to blend properly with the waxes to provide a suitable film on the applied lip skin. Also acts as solvent in some formulation. Acts as dispersing agent for insoluble pigments. The ideal mixture of oil should produce the product, easily spread & produce a thin film with good covering power. Examples: Castor oil.cocnut oil. Nutmeg oil. Cinnamon oil

c) COLOUR:- Different natural colour are used in lipsticks like pomegranate juice extract. Turmeric powder.

d) PRESERVATIVES:

Preservatives is Used to prevent microbial growth Example: vanilla essence higher conc. of preservative can cause slightly burning sensation or allergic reaction.

e) FRAGRANCE : Fragrance is Essential component of lipstick Used to mask bad odor of fatty or wax Used to impart attractive flavor Conc. 2-4% Qualities for selection: Free from irritating effect Free from disagreeable taste Stable & compatible with other things. eg. Strawberry essence. Vanilla essence

f) ANTIOXIDANTS:

Antioxidants Incorporated to prevent rancidification of oily base during storage. Generally used in combination Example: Lemon juice (Citric acid)

g) SURFACTANTS:

Surfactants: Used to promote wetting & stabilize the dispersion of insoluble pigments in lipstick base.eg ripe fruit of shikakia powder (5)

1.3 DEFECTS IN LIPSTICK:

FORMULATION RELATED PROBLEMS

- Bleeding: Separation of coloured liquids from the waxy base. It leads to extremely uneven color distribution.
- Blooming: When the surface of the lipstick appears dull instead of desired gloss is called as the problem of blooming. It is chiefly due to higher percentage of oil. Streaking: A thin line or band of different color or substances appears to the surface of finished products. Problem arises due to separation of suspended particles.
- Seams: Marks left on the lipsticks when split moulds are used. They are caused either due to brittle masses or due to faulty cooling technique.
- Laddering: Product has a ladder like appearance It does not look smooth or homogeneous after congealing & setting but instead a multilayered appearance. Occur due to either mould is kept at a very low temperature or when bulk formulation is not hot enough or filling rate is slow.

Deformation:

The shape of the lipstick looks deformed. It is most noticeable in softer formulae. Can appear on side of the lipstick or on both the sides.

MOULDING RELATED PROBLEMS

Catering:

This effect is mostly found in split mouldings. It shows up in flaming when the stick develops dimples (spots). The main cause is the presence of trace amounts of silicone oils or machinery lubrication oil from manufacturing mixtures or the dispenser mixture.

Mushy Failure:

The central core of the stick lacks structure & breaks. The problem is not related to particular formula or particular shade. The granularity caused by carnauba wax could be the reason for this problem. (6)

1.4 The Lipsticks Prepared By Using Various Different Natural Colouring

Pigment Drugs

1) TURMERIC Turmeric is commonly known as Indian saffron. Biological source-It consists of dried, as well as fresh rhizomes of the plant *Curcuma longa* Linn. Family: Zingiberaceae Scientific classification Kingdom: Plantae



Division: Magnoliophyta Class: Liliopsida
FIG.1: Turmeric Subclass: Zingiberidae Order: Zingiberales Family: Zingiberaceae Genus: *Curcuma* Species: *C. longa* Chemistry of pigments: Turmeric contains about 5% of volatile oil, resin and yellow colouring substances known as curcuminoids. The chief component of curcuminoids is known as "curcumin". Chemically curcuma species contain volatile oils, starch and curcumin (50 – 60 %).

Curcumin and other related curcuminoids are reported to be responsible for yellow colour of the dye (4)

2) POMEGRANATE: Biological source- It consists of fresh and dried fruits of the plant Punica granatum. Family-Lythraceae Scientific classification



Kingdom: Plantae.

Fig.2: Pomegranate Division: Magnoliophyta a Class: Magnoliopsida Subclass: Rosidae Order: Myrtales Family: Lythraceae Genus: Punica Species: P. granatum Chemistry of pigments:

Anthocyanins are water-soluble pigments primarily responsible for the attractive red- purple colour of pomegranate juice .It contains chief constituents such as punicalagin, punicalin, gallagic and ellagic acids It also contains alkaloids like isopelletierine . Punica granatum dye and many other common natural dyes are reported as potent antimicrobial agents owing to the presence of a large amount of tannins.(4)

3) BETA VULGARIS ROOT

Biological Source-Beta vulgaris (beet) is a plant which is included in Betoideae subfamily in the Amaranthaceae family. Kingdom- plantae Order- caryophyllales



Fig 3:- Beet Family- Amaranthaceae Species- B.vulgaris

Chemistry of pigment-• The color of red/purple beetroot is due to a variety of Betalain pigments, unlike most other red plants, such as red cabbage, which contain anthocyanin pigments. • The composition of different beta lain pigments can vary, resulting in strains of beetroot which are yellow or other colors in addition to the familiar deep red Some of the betalains in beets are betanin, isobetanin, probetanin, and neobetanin (the red to violet ones are known collectively as betacyanin. Other pigments contained in beet are indicaxathin and vulgaxanthins (yellow to orange pigments known as betaxanthins).• Indicaxanthin has been shown as a powerful protective antioxidant for thalassemia and prevents the breakdown of alpha-tocopherol (Vitamin E). (4)

EVALUATION TABLE OF DIFFERENT FORMULATION 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, thixotropy character, force of application, surface anomalies etc

SR.NO	TEST	F1	F2	F3
1.	Color	Yellow	Red	pink
2.	pH	6	5	6
3.	Skin irritation test	NO	NO	NO
4.	Melting point	55-60	50-60	60-65
5.	Breaking point	30	32	28
6.	Force of application	GOOD	GOOD	GOOD
7.	Perfume stability	++	++	++
8.	Aging stability	SMOOTH	SMOOTH	SMOOTH
9.	Solubility test	Chloroform soluble	Chloroform soluble	Chloroform soluble

The formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients. According to literature survey of previous investigation of these herbal plant it may be minimize the side effects as produced by the available synthetic ones. Different natural ingredients were used for formulating natural lipsticks that contain coloring agent which is a natural colorant

obtained from Punica granatum and the effect of different natural ingredients on different evaluation parameters in the formulation have been investigated.

CONCLUSION

Now a days when cosmetics offers artificial and chemical ingredients at sky rocking prizes as well as several adverse effects, herbal cosmetics carry goodness of natural alternatives with its herbal products. These ecofriendly, herbal lipstick is made from natural plant extracts that promises to rejuvenate and revitalize skin with new freshness. The present investigation was done to formulate lipstick containing herbal ingredients.

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