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Punica granatum

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Synthetic colouring agents have been shown to be carcinogenic and can cause allergic reactions. The aim of this study was to formulate and evaluate herbal lipstick that used *Punica granatum* as a colouring agent. Castor oil, Paraffin wax, Bees wax, Shikakai ripe fruit powder, lemon juice, orange essence, and vanilla essence were used in the formulation of herbal lipstick in addition to *Punica granatum*. Colour, texture, pH, melting point, breaking point, softening point, surface anomalies, ageing, and perfume stability were all tested on the prepared herbal lipstick. Different evaluation parameters of prepared herbal lipstick were found to be close to standard values and marketed formulations, according to the findings. *Punica granatum* could be a better choice for synthetic colouring agent, as per the report.

Lipstick is a beauty product that colours the lips and protects them from the environment. Lip colouring is an ancient tradition that dates back to the prehistoric era [1]. The use of products has increased in recent years, and the variety of colour shades, textures, and lustre has grown. This can be seen in the fact that lipstick is sold in hundreds of different colours to suit the needs of women [2, 3]. Lipsticks have recently been scrutinised by a variety of health experts. Lipsticks are often eaten away by the customer, so health authorities must analyse the ingredients in the lipstick at a microscopic stage [4]. The dyes that lead to the lipstick's colour are poisonous to humans if ingested. Coal tars, which are the basic ingredients used to produce synthetic dyes, can cause allergic reactions, nausea, dermatitis, and lip drying in mild cases. They can be carcinogenic and even lethal in more extreme forms [5]. Though pigments and dyes make up a small percentage of the lipstick's composition, they are the most significant because they give the lipstick its colour. Natural colourants that have additional multifunctional effects in lip care products, foundations, hair colouring, and other colour cosmetics, such as UV defence, anti-aging, and related functionalities, are pursued by cosmetic manufacturers [6, 7].

Figure 1: Lipstick

Many natural colours that fulfil these standards have evolved from their use in foods and cosmetics in the past. These are typically plant

pigments or dyes that have a long history of being used safely by humans [8]. Plant pigments including anthocyanins and carotenoids have been shown to have antioxidant and anti-inflammatory effects in studies. Plant pigments have been used to paint food and cosmetics for decades, including curcumin, beet anthocyanins, carotenoids from peppers and saffron, and chlorophyll from green leaves [9-13]. Skin care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial make up, coloured contact lenses, hair colors, hair sprays, gels, deodorants, baby products, bubble bath, bath salts, and a variety of other cosmetics are in high demand in both developing and developed countries [14].

Herbal cosmetics are in high demand around the world and are a priceless natural gift. There are many herbal cosmetic products to choose from to keep up with your beauty routine. Antioxidant, anti-inflammatory, antiseptic, and antibacterial properties are among the properties of herbs used in cosmetic preparations [15, 16]. These herbal products appear to have no side effects, which are common with synthetic products. Ayurvedic literature, especially the Charak Samhita, lists a number of medicinal plants in Varnya kashaya. Herbs such as Chandan, Haldi, Khas, Nagkheshara, Manjistha, and Yastimadhu are used to achieve a glowing complexion, while Kustaharan includes Arusa, Amala, Bavchi, Guduchi, and Chakmard [17-20].

Botanical extracts that enhance skin and hair protection, texture, and integrity are commonly used in commercial cosmetic formulations [5-8]. Although the word "cosmeceutical" is fresh, plant materials from which these extracts are produced have a long history of conventional "cosmeceutical" usage [21-23]. In certain cases, effectiveness and safety evidence reported in scientific literature are sufficient to support these cosmetic applications. Several antioxidants used in cosmetics have been clinically proven to help skin texture, appearance, and colour, making them one of the more common functional natural ingredients [24, 25].

Lip colouring is an ancient tradition that dates back to the prehistoric era. The use of materials has increased in recent years, and the variety of colour colours, textures, and lustrous finishes has grown [26, 27]. This can be seen in the fact that lipstick is sold in hundreds of different colours to suit the demand of women. We conceived the current work to devise a herbal lipstick with minimal or no side effects that will be commonly used by the women of our societies with great certainty and satisfaction due to various adverse effects of available synthetic preparations [28, 29].

Cosmetic means any article intended to be sprayed, poured, rubbed, or sprinkled on, or inserted into, or applied to the human body or any portion of it for cleaning, beautifying, encouraging beauty, or altering the appearance, according to the D&C act 1940 and rules 1945. It also includes any articles designed to be used as a cosmetic component. Cosmetics are substances that are added to the human body to improve its appearance. Skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and face makeup, permanent waves, coloured contact lenses, hair colours, sprays, and gels are all examples of cosmetics [30-32].

In both developing and developed countries, deodorants, infant products, bath oils, bubble baths, bath salts, butters, and a number of other products are in high demand. Wax, oils, vitamins, and emollients are all present in lipstick. The strong lipstick's structure is created by wax. Several waxes, such as beeswax, ozokerite, and candelilla wax, can be used to produce lipsticks [33]. Olive oil, mineral oil, cocoa butter, lanolin, and petrolatum are among the oils and fats used in lipsticks. Lipsticks are dyed with a number of pigments and lake dyes, including bromo acid, D&C Red No. 21, Calcium Lake (such as D&C Red 7 and D&C Red 34), and D&C Orange No. 17. Organic and inorganic pigments are also available. Herbal cosmetics are in high demand around the world and are a priceless natural gift. There are many herbal makeup products to choose from to fulfil your beauty needs, and using herbal in cosmetics is really safe for your skin. Humans have been using herbs for various purposes such as food, medicine, and beatification, but with the advent of science and technology, the use of natural things such as plants has declined except for food, and vegetarians consume only plants. Herbs are, however, making a comeback as medications and cosmetics. Lip colouring is an ancient tradition that dates back to the prehistoric era. The use of products has increased in recent years, and the range of colour shades and textures, which are more lustrous, has improved and grown. The dyes that lead to the lipstick's colour are poisonous to humans if ingested. Coal tars, which are the basic ingredients used to produce

synthetic dyes, can cause allergic reactions, nausea, dermatitis, and lip drying in mild cases. They can be carcinogenic and even lethal in more extreme forms [34].

- Herbal colours are used in leucoderma, especially of the lips, since they are non-toxic, highly lipophilic, antioxidant, anti-microbial, and anti-inflammatory.
- Purplish red, crimson red, beetroot purple, dark violet, pastel red, light red, purplish red, rose red, deep majenta, dark purple, orange, and deep violet are some of the original shades of colourant [22].
- From these colours, by different combinations, further shades can be obtained [35].

Castor oil, Paraffin wax, Bees wax, *Punica granatum* juice, Shikakai ripe fruit powder, lemon juice, orange essence and vanilla essence. Following method was adopted by author during the course of present investigation. Collection and authentification of herbs of plant material- the different herbs used in the formulation of herbal lipstick on the basis of literature survey.

Formulation of Herbal Lipstick

Herbal lipstick was formulated as per general method of normal lipstick formulation. The ingredients used in the formulation of a herbal lipstick are:

Ingredients with their prescribed quantity in the formulation of a herbal lipstick

1	Castor oil	14 mL	Blending agent
2	Paraffin wax	26 gm	Glossy & hardness
3	Bees wax	35 gm	Glossy & hardness
4	Ripe fruit powder of Shikakai	14 gm	Surfactant
5	Lemon oil	01 mL	Antioxidant
6	*Punica granatum* juice	08 mL	Flavouring agent
7	Orange essence	2 mL	Flavouring agent
8	Vanilla essence	q.s	Preservative

All the ingredients were mixed in a definite ratio by melting paraffin wax and bees wax at a low flame and then moulded in a suitable mold (Moulding method) to formulate lipsticks.

Maintaining a uniform quality for herbal lipstick is critical; with this in mind, the formulated lipstick was tested using criteria such as melting point, breaking point, force of application, surface irregularities, and so on.

- ***Melting Point:***

Melting point determination is important since it indicates the secure storage cap. The melting point of formulated lipstick was calculated using the capillary tube process. The capillary was filled and held in the capillary apparatus, and the liquid was first observed to be slowly milted. The substance was completely melted after being observed on occasion. The melting point ratio was observed in all formulations after the above procedure was repeated three times [65].

- ***Breaking Point:***

The breaking point test was used to assess the lipstick's strength. The lipstick was put horizontally in a socket an inch from the support's edge. The weight was progressively raised by a particular value (10 gm) per 30 seconds, with the weight at which it broke being called the breaking point.

- ***Force of Application:***

It is a measure for comparing the force that will be applied for use. A piece of coarse brown paper was put on a shadow graph balance, and lipstick was applied at a 45°angle to a 1 sq. inch area until it was fully hidden. The application force is indicated by the pressure reading [66].

- ***Surface Anomalies:***

Surface defects were examined, such as the absence of forming crystals on surfaces and the absence of contamination by moulds, fungi, and other microorganisms.

- ***Aging Stability:***

The product was held at 40°C for one hour. Several parameters were observed, including bleeding, crystallisation on the surface, and ease of application.

- ***Skin Irritation Test:***

It is carried out by applying product on the skin for 10 min [67].

The aim of the current work, which included the formulation and testing of herbal lipsticks, was to develop a lipstick with herbal ingredients in order to reduce the side effects caused by synthetic lipsticks.

Shows that the result of formulations

Color	Red
Skin irritation test	No
Melting point	64-66
Breaking point	29
Force application	Easy
Perfume stability	++
Surface anomalies	No defect
Aging stability	Smooth

The use of cosmetics by women has increased enormously in the last few decades. However, the risks posed by these chemicals have only recently come to light. The aim of the current work, which included the formulation and evaluation of herbal lipsticks, was to develop a lipstick with herbal ingredients in order to reduce the side effects caused by synthetic lipsticks.

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