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## Overview on herbal lipstick: Benefits, method of preparation and evaluation parameters

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### Abstract

Cosmetics are a class of health and beauty goods that are used to enhance or change a person's look, as well as to care for the face and body. Cosmetics have a history that dates back at least 7,000 years and are a part of practically every civilization in the world. The cosmetic used to colourize the lips is lipstick. It improves the lips' visual appeal. Lipstick is intended to protect the lips from many forms of harmful UV rays, enhance beauty, and make them appear more attractive. In addition to pigments, oils, scent, preservatives, colours, and textures, herbal lipstick also provides protection for the lips. It is now a component found in practically all women's handbags. The natural lipsticks available with no negative effects. It has safe, natural substances or nutrients that maintain the health of lips. Lipstick that uses artificial colourants, which are comprised of dangerous chemicals, is particularly bad for our skin. Synthetic colour usage over an extended period of time may result in major health issues like skin blemishes, lip cancer, skin inflammation, etc. Lipstick exhibits a variety of harmful effects, including allergic reactions, nausea, dermatitis, drying of the lips, and even death. Because herbal compounds are safe, demand for cosmetics incorporating them has therefore increased globally. This review study discusses the advantages, lip anatomy, desirable characters, formulation flaws, and evaluation of herbal lipstick.

**Keywords:** Cosmetics, lipstick, herbal lipstick, lip anatomy, evaluation parameters, etc.

### Introduction

Cosmetics are a class of health and beauty goods that are used to enhance or change a person's look, as well as to care for the face and body. In addition to being used to enhance one's look, cosmetics can also be used to care for one's skin and body and to add fragrance. There are many different forms of cosmetics with distinct and important purposes, even though cosmetics are typically associated with skin and body care.

Cosmetics have a history that dates back at least 7,000 years and are a part of practically every civilization in the world. The use of cosmetics in body art is said to be the first known type of human ritual. Used red mineral pigments (red ochre) and crayons connected to the appearance of Homo sapiens in Africa are regarded as the definitive proof of the aforementioned claim. (M. Surya, *et al.*, 2021) <sup>[6]</sup>.

Greek word "Kosmtikos," which means "the power, organization, and skill in beautifying," is the source of the English word "cosmetics." (Priya, *et al.*, 2022) <sup>[10]</sup>.

### Lipstick

Women use lipstick most frequently as a cosmetic to enhance the appearance and feel of their lips. Lipstick has the power to alter a woman's facial appearance. They are often shaped like moulded sticks and made of colouring pigments that have been blended with or dispersed throughout a fatty base made of the right ratios of oils, fats, and waxes that have been fragrantly perfumed. (Thengade, *et al.*, 2023) <sup>[21]</sup>.



Fig 1: Various shades of lipsticks

### History of Lipstick

Cosmetics have been used by people since the Stone Age. Particularly among the Sumerians, Syrians, Persians, Egyptians, Babylonians, and Greeks, lip colouring use was widespread. Later, Elizabeth I and the women in her court wore clothing in keeping with the time period. For many years, the court would paint their lips and cheeks with red mercuric sulphide. In late 19th-century western society, it was widely believed that only immoral women wore lipstick or other cosmetics. Lipstick and other cosmetics gained full social acceptance in the 20th century. The price of cosmetics has lowered thanks to the improvement of applicators and mental tube construction. As a result, the new technology gained widespread adoption, increased appeal, and public acceptance. (Nanda S, *et al.*, 2007) <sup>[8]</sup>.

### Herbal Lipstick

Herbal lipsticks used to provide lips a beautiful colour, a smooth texture, and protection. Wax, oil, pigments, dyes, alcohol, aroma, preservatives, antioxidants, colours, and surfactants are all ingredients found in lipstick, which is a cosmetic product. These lipstick formulations have no negative side effects and do not harm our lips. They involve a colour change, sheen, and the smoothing out of lip creases and wrinkles. It is one of the most well-known cosmetics products and comes in a variety of packaging, designs, and styles. Given its various benefits, lipstick should be used to prevent cracked and dry lips. Lip colouring has been a tradition since the prehistoric era. Today's consumers use cosmetics more frequently, and the range of hues and textures available has expanded. (Priya, *et al.*, 2022) <sup>[10]</sup>.

### Ideal characteristics

1. It should have a bright, smooth appearance that is free of perspiration
2. It shouldn't irritate or be poisonous to lips.
3. When stored, it shouldn't dry out.
4. The container should be simple to use.
5. It should apply a consistent colour to the application area
6. There shouldn't be any grit in it.
7. There shouldn't be any melting or hardening within a tolerable range of climatic temperature. (Nema, *et al.*, 2009) <sup>[17]</sup>.

### Advantages of herbal lipstick over synthetic lipsticks

The use of herbal cosmetics is currently popular in the

fashion and beauty industries. These products are becoming more and more popular because, in contrast to synthetic cosmetics, most women today prefer natural products over chemicals when caring for themselves and enhancing their beauty because they give the body nutrients, improve health, and provide satisfaction. Natural cosmetics have the following advantages over synthetic ones, which make them preferable: Natural products, safe to use, compatible with all type skin, extensive options, fit in budget, no side effect, etc. (Mali, *et al.*, 2022) <sup>[18]</sup>.

### Anatomy of Lips

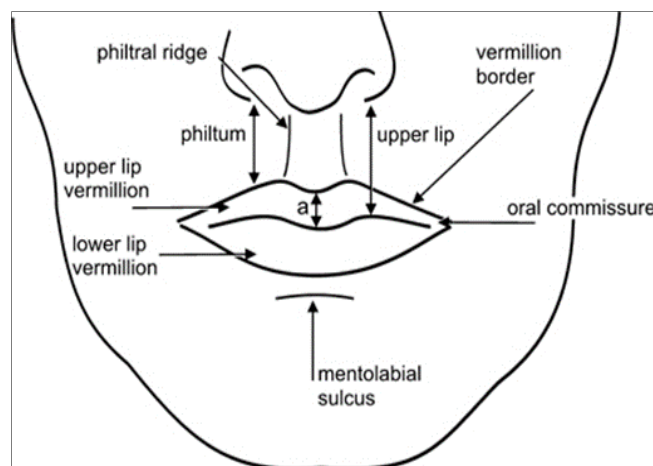


Fig 2: Anatomy of Lips

The supporting components for the oral opening. Their superior border lines up with the inferior edge of the base of the nose in the middle. The top and lower lips merge at the oral commissures, and their limits follow the alar sulci laterally. The mentolabial sulcus is the inferior boundary of the lips in the middle of the face. The philtrum and its pillars are anatomically a part of the upper lip. There are four distinct areas on the lip's surface: the hairy skin, the vermillion border, the vermillion, and the oral mucosa. The typical lip shape changes with age and is impacted by one's ethnicity.

### Vermilion

It is the lips' reddish portion. It is coated with a specialised stratified squamous epithelium that continues into the gingival groove's oral mucosa. Contrarily, the lips are also frequently used to allude to the vermillion itself.

### Vermilion border

It is the perimeter of whiter skin around the vermillion that separates it from the surrounding skin. (Carey, *et al.*, 2009) <sup>[2]</sup>.

### Cupid's bow

It is the shape of the top lip's vermillion border, which forms a line. This line, which resembles an archer's bow when viewed from the front, curves medially and superiorly from the commissures to the paramedian peaks at the bases of the philtrum's pillars (crista philtrae), with an inferior convexity positioned in the space in between. The vertical groove in the middle of the upper lip's midline that is surrounded by these lateral pillars (ridges) is known as the philtrum. (Hennekam, *et al.*, 2009) <sup>[4]</sup>.

### Oral mucosa

It is a stratified, non-keratinized squamous epithelium that covers the interior of the oral cavity. (Standing, *et al.*, 2005) [13].

### Preparation method

- First, melt and combine the basic materials for the recipe in accordance with their respective melting points.
- The solvents, oils, and waxes are heated in separate ceramic or stainless steel vessels.
- After that, combine the colour pigments with the solvent and liquid.
- Combine the hot wax and the pigment mass.
- The lipstick can then be removed from the mould after it has cooled and fitted into the lipstick case. (Dr. Kasture, *et al.*, 2008) [3].

**Problems associated with formulation and moulding:** (Nanda, *et al.*, 2007) [8]

**Table 1:** Problems associated with formulation and moulding

Formulation related problems	Moulding related problems
Sweating (Due to high oil content)	Laddering (Not look smooth or homogenous after congealing)
Bleeding (Separation of colored liquids from the waxy base)	Deformation (Shape of the lipstick looks deformed & appears on both side of lipstick)
Streaking (Different colour appears on finished product)	Cratering (Shows up flaming when stick develops dimples)
	Mushy Failure (The central core of the lipstick lacks structure and breaks)

### Evaluation parameters for Lipstick

#### Melting point

Utilising a capillary tube, it is determined. Open the ends of two capillary tubes made of glass. Introduce enough lipstick, about 10mm high, into each of the five capillary tubes. Let the tubes stand for the required amount of time and at the specified temperature. The melting point of the lipstick in the capillary tube is then determined. With the additional 4 capillary tubes, perform the procedure three more times, and then compute the outcome. (Kothari, *et al.*, 2018) [12].

#### Breaking point

You can use this test to determine the highest pressure at which they will break. Lipstick shouldn't be both too soft and too firm.

**Solubility:** Amount of sample is poured into a separate beaker filled with water and other solvent, identifying and also observe. (Ralebhat, *et al.*, 2022) [19].

**Colour and texture:** Formulated lipstick was checked for colour, glossy and smooth texture.

**pH parameter:** The pH of formulated lipstick was determined using digital pH meter.

**Skin irritation Test:** The procedure involved putting a substance to the skin and waiting 10 minutes.

**Perfume stability:** Herbal lipstick should be tested after 30 days to observe its perfume. (Patel, *et al.*, 2021) [20].

### Force of application

It evaluates the application's relative potency. In order to completely cover a 1 square metre surface, a piece of dark brown paper was placed at an angle of 45 degrees while maintaining the balance of the shadow graph and lipstick. Working capacity is indicated by the pressure reading. (Sangar *et al.*, 2021) [9].

### Aging stability

Watching different metrics, such as application qualities, wax crystallisation on the surface, and oil leaks, while storing the product at 40 degrees Celsius for an hour. (Avinash M D, *et al.*, 2011) [11].

### Microbial testing

Microbial development may be caused by contamination from raw ingredients, mould, storage kettles, or lipstick containers. Placing a known mass of the sample onto two culture media that are specifically designed for the growth of bacteria and fungi and incubating them for a certain amount of time to allow for the creation of visible colonies for counting constitutes the test. There is a 100 o/gm upper limit. (Uzma, *et al.*, 2022) [14].

### Conclusion

An overview of herbal lipstick is provided in this review. It has few, if any, negative side effects. Herbal lipstick is made using a variety of organic ingredients. Therefore, using natural colour is a step towards using healthy cosmetics, and ladies can do it with great joy. The price of cosmetics was reduced through advancements in the manufacture of metal tubes and applicators. This contributed to widespread use and rising popularity, along with the general public's acceptance of the new technology. The evaluation parameter discussed to understand the quality and purity of lipstick.

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