

## Review on Natural Lip Balm

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### ABSTRACT:-

Cosmetics have always been extremely sought after. Nowadays, more emphasis is placed on cosmetic products of natural origin. Among all cosmetic products, lip balms are widely used to enhance the beauty of lips and add a glamorous effect to makeup. Lip balms are a natural way to care for and promote healthy lips. Current lip cosmetic products are based on the use of huge chemical ingredients with a variety of side effects. Therefore, this study attempted to investigate the natural ingredients used in the natural lip balm formulation. This article explains the basic ingredients of natural lip balm, as well as their benefits and limitations. Natural lip balm can consist of a base, oils, extracts, dyes and flavors of natural origin, which can be evaluated for their resistance to temperature changes, pleasant taste and softness when applied, adhesion and ease of removal, etc. Cosmetics have always been extremely sought after. Nowadays, more emphasis is placed on cosmetic products of natural origin. Among all cosmetic products, lip balms are widely used to enhance the beauty of lips and add a glamorous effect to makeup. Lip balms are a natural way to care for and promote healthy lips. Current lip cosmetic products are based on the use of huge chemical ingredients with a variety of side effects. Therefore, this study attempted to investigate the natural ingredients used in the natural lip balm formulation. This article explains the basic ingredients of natural lip balm, as well as their benefits and limitations. Natural lip balm can consist of a base, oils, extracts, dyes and flavors of natural origin, which can be evaluated for their resistance to temperature changes, pleasant taste and softness when applied, adhesion and ease of removal, etc.

**Keywords:-** Herbal, Herbal Lipbalm, moisturizer, natural ingredients

### I. INTRODUCTION:-

Cosmetics play an important role in today's lifestyle. Additionally, the current trend is to go green and adopt a more natural lifestyle in almost all areas, including the beauty industry. Natural foods, medicinal plants and natural healing practices for healthy living are the preferred choice and there is a high demand for organic plant products. Herbal cosmetics have found numerous applications in personal care.<sup>1</sup> Natural products have been used in traditional medicine around the world for thousands of years. Many of them possess pharmacological properties such as antimicrobial, anti-inflammatory and cytostatic effects. They have proven themselves in human medicine.<sup>2</sup> Herbal cosmetic products are available in different recipes. The word "herbal" indicates safety compared to synthetic products, which have various negative effects on human health<sup>[3]</sup>. Lip coloring is an ancient practice that aims to highlight the beauty of the lips and add shine to facial makeup. For this purpose, the selection of shades, textures and gloss levels has been modified and expanded. This is evident in lip jellies, lip balms and lipsticks, which are sold in hundreds of editions with colors to meet demand<sup>[4]</sup>. In today's rapidly growing civilization, the demand for natural products whose production is safe for the environment has increased the production of natural cosmetics. Lip balm is a cosmetic product similar to lipstick that is used to prevent the lips from drying out and protect them from harmful environmental influences. This work consisted of the production of a lip balm based on natural or vegetable raw materials and the verification of the stability tests: melting point, assessment of organoleptic properties (color, smell and appearance) and assessment of functionality (spreadability test). Natural lip balms are preparations for use on the lips that prevent the lips from drying out and protect them from harmful environmental influences. Natural lip balm helps maintain and promote lip health.<sup>[5]</sup> Lip skin is thin

and different from other body parts. It does not have hair follicle, sebaceous and sweat glands. And it is devoid of an inherent mechanism to retain moisture and protection from the external environment. Hence lips need more care, protection and moisture retention.<sup>6</sup> Due to various adverse effects of available synthetic preparation, herbal lip products are on demand recently. Various colors and natural ingredients are usually added to these preparations to ensure their safety with minimal side effects. The most commonly used dyes come from Beta Vulgaris, Piper Betel, Dragon Fruit, Amaranth, etc.<sup>[7,8]</sup>

#### **Difference between lip and regular skin structure :-**

Lips look more attractive than normal skin. In general, the upper corneal layer of normal skin consists of 15 to 16 layers that serve primarily protective purposes. The upper stratum corneum of the lip consists of around 3 to 4 layers and is very thin compared to typical facial skin. The skin of the lips contains very few melanin cells. This makes the blood vessels more clearly visible through the skin of the lips and gives the lips a beautiful pink colour. The skin of the lips has neither hair follicles nor sweat glands. Therefore, it contains no sweat or body oil and protects the lips from external influence.<sup>[9]</sup>

#### **Anatomy of Lips :-**

The lips serve as organs for grasping, sucking and speaking. It consists of the skin, the superficial fascia, the orbicularis oculi muscle and the surrounding muscles (areolar and mucous tissue). The edges of the lips are covered by a dry, red mucous membrane that merges into the skin and contains numerous vascular papillae and tactile bodies. The mucous membrane reflects inwards the upper and lower lips at the level of the gums and forms two folds of the upper and lower lips in the midline.<sup>[10]</sup> The nerves that innervate the lower lip arise from the mental nerve, which arises from the bone through the mental foramen and sends large branches to the mucous membrane, integument, and fascia of the lip and chin. Some lymphatic vessels from the lips drain into the gland just above the body of the hyoid bone, while others drain into the submandibular glands. The labial glands are located in the submucosa of the lips, around the mouth opening. They secrete a mucous fluid. Mucous cysts arise when the ducts of these glands are blocked.<sup>[11]</sup>

#### **Lip Disorders:-**

##### **1. Swelling:-**

An allergic reaction can cause your lips to swell. The reaction may be caused by hypersensitivity to certain foods or drinks, medications, lipstick, or airborne irritants. If the cause can be identified and then eliminated, the mouth will usually return to normal. However, the cause of the swelling often remains a mystery. A condition called hereditary angioedema can cause recurring attacks of swelling. Non-hereditary diseases such as erythema multiform, sunburn, cold, dry climate or trauma can also cause lip swelling.<sup>12</sup>

##### **2. Sun Damage:-**

Sun damage can make your lips, especially the bottom lip, hard and dry. Red spots or a clear white appearance indicate damage that increases the risk of later cancer. You can reduce this type of damage by covering your lips with a lip balm containing sunscreen or protecting your face from the sun's harmful rays with a wide-brimmed hat.<sup>12</sup>

##### **3. Inflammation:-**

With cheilitis (cheilitis), the corners of the mouth can become sore, irritated, red, cracked, and flaky. Cheilitis can be caused by a lack of vitamin B2 in the diet

##### **4. Discoloration:-**

Freckles and irregularly shaped brownish areas (melanotic patches) are common around the mouth and can last for many years. These signs are not cause for concern. Multiple small, isolated brown-black spots may be a sign of an inherited disorder called Puzsz-Jeghers syndrome, in which polyps form in the stomach and intestines. Kawasaki disease, a disease of unknown cause that usually affects infants and children ages 8 and younger, can cause dry, cracked lips and redness of the oral lining.

##### **5. Sores:-**

A raised or painful area with hard edges on the lip may be a form of skin cancer. Other sores may develop as symptoms of other diseases, such as an oral herpes simplex virus infection or syphilis. Still others, such as keratoacanthoma, have no known cause.<sup>12</sup>

**Application of Lip Balm:-**

Lip balms are preparations applied to the lips that prevent dehydration and protect against the harmful effects of environmental factors. Today there are many chemical-based lip balms on the market from companies such as The Body Shop, Nivea, Himalaya, Blistex etc. The cosmetic literature provides limited data on this type of formula, although the references to lipstick as a cosmetic in the form of a balm for the oral cavity, this similarity also extends to the organoleptic and stability requirements, such as: B. Resistance to sudden changes in temperature, pleasant taste, safety, softness when applied, adhesion and ease of intentional removal.<sup>13</sup> Lip balm should not be equated with lip gloss, as the former is a product intended for both men and women. Lip balms are frequently consumed by the user, so it is imperative that health authorities take a close look at the ingredients in lip balms. The dyes that give lip balm colour are dangerous to humans if swallowed<sup>14</sup>

**Advantage and Disadvantage of Natural lip balm:-**

**Advantage of Natural Lip balm:-**

- Lip balm helps protect the natural health and beauty of your lips.
- Lip balms with sunscreen have been proven to prevent ultraviolet rays from damaging the lips.
- These are not gender specific products and can be used by both men and women.
- Lip balms help protect lips affected by cold sores, cracks and dryness. Volume.
- The contact of the product with the skin does not cause a feeling of friction or dryness and must allow the formation of an even layer on the lips that protects the labia mucosa, which is

sensitive to environmental factors such as UV rays, dryness and pollution.

- Refreshes, renews and relieves lip symptoms caused by colds, flu and allergies.
- Use a natural lip cosmetic to treat facial appearance and skin conditions.<sup>15,16</sup>
- **Disadvantage of Natural Lip Balm:-**
- Lip balms made from poor quality ingredients can cause serious damage to your lips. These lip balms can dry out your lips instead of moisturizing them.
- Dependence on lip balms is another disadvantage that usually occurs while using these lip balms.
- Compared to commercial lip balms, homemade lip balms tend to stay on the lips for a shorter time. The application must therefore be repeated frequently.
- Some companies make lip balms solely based on cosmetic appearance, ignoring the health benefits and the sensitive nature of the skin. Such products gradually destroy the natural colour, softness and shine of the lips.
- Colours and flavours of natural origin are more difficult to obtain and also cause problems with product stability.
- Natural oils have further disadvantages, such as being greasier, more comedogenic and less spreadable<sup>17</sup>
- **Common Ingredients used in Natural Lip Balm Formulation:-**
- he list of materials used as key formulation ingredients for natural lip balm given in the Table no.1 as described below

Base <sup>18</sup>	Oils <sup>19</sup>	Colouring Agent	Flavouring Agent
Coca butter	Coconut oil	Beet root	Strawberry
Bees Wax	Olive oil	Pomegranate	Honey
Shea Wax	Almond oil	Marigold	Orange
Shea butter	Vitamin E oil	Tomato	Saffron/Kesar
White bees wax	Peanut Oil	Jabul	Raspberry
Yellow bees wax	Tea tree oil	Watermelon	Vanilla
Carnauba wax	Glycerin	Honey	Mango
Candelilla wax	Castor oil	Saffron	Rose oil
Mango butter	Jjoba oil	Turmeric	Sandalwood
Avocado butter	Corn oil	Capsicum	Jasmine
Olive wax	Arachis oil	Cherry	Cherry
Jjoba wax	Lemon oil	Orange	Apple

Olive butter	Avocado oil	Strawberry	Lemon
Sweet Almond butte	Sesame oil	Mango	Apricot
Sweet almond wax	Sunflower oil	Carrot	Rosemary
Raspberry butter	Grape seed oil	Lemon	Pineapple

**Base:-**

Waxes are an important group of constituents for the product of particular care products and ornamental cosmetics. Waxes are used in colorful diligence and products. They're primarily used in candles, but also find important operations as thickeners emulsifiers in the food, cosmetics and medicinal diligence. Chemically speaking, waxes are complex fusions of hydrocarbons and adipose acids clicked to esters. Waxes are harder, lower slithery and more brittle thanfats.They're veritably resistant to humidity, oxidation and bacteria. There are four orders of waxes a) Beast waxes beeswax, lanolin, spermaceti(b) Vegetable waxes Carnauba, Candelilla, Jojoba;(c) Mineral waxes ozokerite, paraffin, microcrystalline, ceresin; d) Synthetic waxes Polyethylene, Carbowax, Acrawax, Stearon. The most generally used waxes in ornamental products are beeswax, carnauba wax and candelilla wax. Waxes are esters of adipose acid and a adipose alcohol. Jojoba oil painting is thus a wax and not an oil painting. Physically speaking, waxes have a high melting point of (50- 100 °C). The most generally used wax is beeswax, which is a good softening and thickening agent. Two other natural waxes generally used in cosmetics are carnauba wax and candelilla wax. Both are harder and have a advanced melting point, making them more stable and suitable for dry products similar as lip attar<sup>20</sup>

**Oils:-**

Fatty acids can be saturated or unsaturated, which determines the stability and properties of the oil. Oils rich in saturated fatty acids (lauric acid, myristic acid, palmitic acid and stearic acid) include coconut oil, cottonseed oil and palm oil. Oils rich in unsaturated fatty acids (oleic acid, arachidonic acid, linoleic acid) include canola oil, olive oil, corn oil, almond oil, safflower oil, castor oil and avocado oil. Saturated oils are more stable and do not go rancid as quickly as unsaturated oils. However, unsaturated oils are softer, more valuable, less greasy and are better absorbed by the skin. Natural butters such as shea butter, avocado butter or cocoa butter are not real butters, but natural fats. In general, natural butters

are excellent softeners and thickeners and, depending on the type, can have various additional properties (e.g. antioxidant and soothing properties of shea butter and avocado due to phenolic compounds<sup>21</sup>

**Coloring Agent:-**

In order to give cosmetic products a characteristic appearance, dyes or colorants are predominantly used. Colour has been used in cosmetics since ancient times. Basically, the desire to buy a cosmetic product is controlled by three senses: sight, touch and smell. Therefore, colour is an important component of cosmetic formulations. Colour is added to the lips in two ways: (a) by colouring the skin with a dye solution that can penetrate the outer layer of the lip skin, (b) by covering the lips with a coloured layer that serves to mask any colour Roughness of the lips. skin and gives it a smooth appearance. The first condition is satisfied by soluble dyes, while the second is satisfied by insoluble dyes and pigments that make the film more or less opaque. Modern lip balms contain both to achieve a combined effect. The dyes must be included in the list of certified dyes according to the Medicines and Cosmetics Act<sup>22</sup>

**Flavouring Agent:-**

In order to mask the four basic taste sensations, aromas or flavourings are usually needed. Taste is the mixed sensations of taste, touch, smell, sight and hearing, all of which involve a combination of physicochemical and physiological processes that influence the perception of a substance. With the development of technology in the flavour industry, many artificial or imitation flavours have been created. Creating acceptable taste is more of an art than a science.flavours are selected based on the taste of the drug or other ingredients to consider.<sup>23</sup>

**Method of Lip Balm Preparation:-**

Details on the general preparation of lip balm are described in this section. Select the appropriate lip balm ingredients from Table 1. First, melt a precisely measured amount of waxes in descending order of melting point in a hot water bath, stirring/heating constantly, until they are

completely dissolved. The dye is then dissolved in oil or water, depending on its solubility, and added to the melted wax mixture. Finally, add flavours such as honey and vanilla, which also act as preservatives, and mix continuously to obtain a homogeneous mixture. The mixture must be mixed vigorously until a homogeneous emulsion is formed. This mixture can then be poured into clean, greased molds and cooled to shrink the waxes and make removal of the balm easier. Recently, the company also patented botanical butter lip balm stick cosmetic preparations.<sup>24</sup>

#### Evaluation Parameters:-

##### 1. Organoleptic properties:-

The preparation was tested for appearance, colour and smell. These characteristics were assessed through physical observation. Consistency and evenness were tested by squeezing a small amount of the mixture between the thumb and forefinger. The presence of large particles and consistency were used to assess the consistency and homogeneity of the preparations. Skin feel (including tightness, oiliness and roughness) was also assessed.

##### 2. pH :-

One gram of the preparation was dispersed in 25 ml of distilled water. The pH of the preparation was determined using a pH meter (Mettler Toledo), which was previously calibrated with a standard buffer solution (pH 4, 7 and 10). The measurement was carried out three times

##### 3. Melting point:-

The melting point was determined using a melting point device (Veggo, India). One end of the capillary was briefly closed; From the other end, the preparation was introduced into the capillary to a certain height. The capillary was subjected to a melting point measurement and the temperature at which the mass melted was recorded.<sup>25</sup>

##### 4. Test for spreadability:-

Flowability was determined using glass slides. The sample was placed between two glass slides and a load was applied the preparation was applied to microscope slides. To check the uniformity of layer formation, visual observation was carried out<sup>26</sup>

##### 5. Skin sensitivity:-

This was achieved by applying the product as a patch to the skin for 30 minutes and the reaction was observed as

N - No reaction

R - Redness of the skin

I - Irritation or itching<sup>27</sup>

##### 6. Stability test:-

The stability of the lip balm formulation was evaluated for 30 days under different temperature conditions, mainly at room temperature ( $25 \pm 2$  °C), at higher oven temperature ( $40 \pm 2$  °C) and in the refrigerator ( $5 \pm 2$  °C). Characteristics such as organoleptic properties and lubricity were assessed on days 7, 15 and 30.<sup>28</sup>

## II. RESULTS AND DISCUSSION:-

Lips have veritably thin skin and veritably susceptible to drying out, eventually dicing of lips takes place. Applying poultices and creams on minced lips are impracticable as these are water-answerable have veritably little retention on lips. Ointments suffer from stickiness; hence lip attar is the stylish volition to apply on lips. Lip attar retains the humidity and prevents dicing. Synthetic colorings, flavours and other constituents may harm lips as these may beget drying of lips, antipathetic response and darkening. Current exploration aims to produce a lip attar that contains as numerous herbal constituents as possible. To make lips seductive and increase the aesthetics of a ornamental medication, the choice of colorings is extremely important. In this medication, beetroot color was used as a colouring agent. Beetroot is a readily available source of red and unheroic colour colors. These colors are calledbetalains.They correspond of beta xanthins, which are responsible for the unheroic colour, and betacyanins, which are responsible for the red color. The main element of betacyans is betanin, which makes up 75 to 95 and gives beets their red colour. Conserving the colour colors is important for the visual appearance of the medication. The present study also focuses on the red colouring of the expression; thus, beetroot is chosen as the main source of colour colors( 18). In addition, betanin also has an antioxidant eventuality of and has been shown to reduce lipid peroxidation.<sup>29</sup>

The extracted pigment is shown in Figure 1.



**Fig.1** Extracted beet root pigment

### III. CONCLUSION:-

The aim of the current research was to produce a lip balm with as many natural ingredients as possible. The main color chosen was beetroot extract, cocoa powder was used as the flavoring, almond oil was used as the stabilizer and softener for the emulsion and the vitamin E capsule was used as the antioxidant. The influence of these ingredients on the physical chemical properties such as organoleptic properties, melting point, consistency and lubricity of the preparation. It can be said that the formula of the lip balm has been successfully prepared using these natural additives. The results of various tests indicate that the preparation has successfully passed a series of physicochemical tests and can be used safely. According to the stability data, storage conditions are at room temperature. The current recipe uses petroleum jelly as a base for future use; can be replaced with a natural base, for example beeswax-based shea butter,

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