

# Formulation and Evaluation of Herbal Lipbalm

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**Abstract-** Cosmetics are unbelievably in demand since historical time. These days people prefers naturally derived cosmetic products. Cosmetic plays a important role in today's life style. Along all cosmetic products, Natural lip balm preprations are most widely used to increase the beauty of lips and add glamour touch and shine to the beauty. Herbal formulation is a sign of safety, satisfaction and surety as less or no harm to the users and so herbal Lipbalm can be made without the colors being compromised on. Lip balms provides a natural way to promote healthy and moisturized lips. Coloring lips is the ancient practice to increase the beauty of lips and to give shine to the face. Current cosmetic lip products are based on use of toxic chemical ingredients with various adverse effect. That's why it leads to study natural ingredients used to production of natural lip balm. This lip balm is formulated according to the scientific procedure and evaluated as per standard requirements. This article reviews on the natural ingredients used for natural lip balm along with their advantages and disadvantages. The present study focuses on the formulation and evaluation of a herbal lip balm using natural ingredients with moisturizing, healing, and protective properties. Herbal cosmetics have gained significant popularity due to their minimal side effects and enhanced therapeutic value compared to synthetic products. The lip balm was formulated using natural waxes, oils, and herbal extracts such as beeswax, coconut oil, almond oil, shea butter, and plant-based coloring or flavoring agents. Different formulations were prepared by varying the concentration of ingredients to obtain an optimized product with desirable characteristics. The prepared herbal lip balm formulations were evaluated for various physicochemical parameters including color, odor, pH, spreadability, melting point, stability, homogeneity, and skin irritation. The formulations showed good consistency, smooth application, acceptable stability, and no signs of irritation during the study period.

**Keywords—** Beetroot, Natural, lip balm, cosmetic, lip dryness, lip moistures

## I. INTRODUCTION

Now a day's Herbal cosmetics have growing demand in the world market. It is an invaluable gift of nature. There are a wide range of herbal cosmetic products to satisfy your beauty regime. The world is returning towards the herbal products.

The use of herbal products is getting common now a day's the people are seeking to adopt more herbal remedies to improve their life style and adopt more natural way of life. People prefer natural food, herbal medicines and natural curing practices for healthy life; there is much demand for the vegetable products cultivated through biological/organic farming without using harmful synthetic fertilizers and pesticides.

The usage of herbal cosmetics has been increased to many folds in personal care regime system and there is a great demand for the herbal cosmetics products. Natural products have been used for traditional medicine purposes throughout the world for many thousands of years ago from now.

Many of them have pharmacological properties, such as antiviral, antipsychotic, antimalarial, antimicrobial, anti-

inflammatory and cytostatic effects. They have been recognized as useful for human medicine.

The literature in Ayurveda especially Chara Samhita stated numerous medicinal plants in Varnyakashaya. The herbs like Chandan, Haldi, Khas, Nagkeshara, Manjistha, Yastimadhu are used to obtain glowing complexion and Arusa, Amala, Bavchi, Guduchi, Chakmard are mentioned as Kustaharan. Possibly, herbal user desire to assume control over health care needs.

Botanical extracts that support the health, texture and integrity of skin and hair are widely used in commercial cosmetic formulations. Plant materials, from which these extracts are prepared, have a long history of traditional use.

Lip balms are formulations applied onto the lips to prevent drying and protect against adverse environmental factors. Numerous lip balms of chemical origin are currently available in the market from companies like the body shop, Nivea, Himalaya, Blistex, etc.

The cosmetic literature reports limited data on this type of formulation, although references related to lipstick apply because it is a cosmetic form similar to lip balm. This similarity extends to include organoleptic and stability requirements such as resistance to temperature variations, pleasant taste, innocuousness, smoothness during application, adherence and easy intentional removal. Lip balm should not be considered equivalent to the lip gloss, with the former being a product intended for use by both men and women. The purpose of all lip balms, even those called salves or butters, is to protect the lips.

They contain a moisturizing ingredient (such as petroleum jelly, shea butter, or lanolin) that prevents water loss. Wax is added to help lip balm stick to lips.



Fig no. 1 Application of Lip-Balm

Because of the presence of dangerous engineered excipients in beauty care products, there has been an extraordinary public concern with respect to the utilization of natural sources. Lips have no oil organs; accordingly, it is truly critical to give that additional dampness and insurance over the course of the day. Regular lip salve frequently contains petrolatum, manufactured waxes, alumina, paraben, hydrogenated oils and fake scents and tones which are harmful. Frequently the lip analgesic is eaten by the client, in this manner it becomes significant issue for wellbeing regulator. Cosmeceuticals are the fixings that have restorative properties that benefits effective activity and furthermore give insurance against degenerative skin condition. A classic and well-liked vegetable in many regions of the world, including Bangladesh, is beetroot. It is the part of the beet plant called the taproot. The primary crop used for commercial purposes in Europe is beetroot, which is also a crucial part of the DASH (dietary methods to control hypertension) and Eastern and Central European diets. In addition to being eaten raw, beetroots are processed to make concentrates, juices, and frozen goods.

They are also utilized as a natural food coloring source; the food coloring that is taken from red beetroot is referred to as "red beetroot." In addition to being used as safe, natural food coloring, betalains are becoming more and more well-known for potential health advantages for people, particularly for their antioxidant and anti-inflammatory properties.

Beeswax is a characteristic compound discharged by female honey bees that is much of the time utilized in beauty care products, especially lip medicine. This substance is very saturating, can assist with safeguarding the lips from the unsafe beams of the sun, and has a wonderful smell. Beeswax go about as a characteristic emulsifier. Vitamin E is a cell reinforcement and a whiz conditioner. Vitamin E assists with keeping up with the delicate, young surface of the lips by lessening the indications of maturing. Almond oil enters profound into the skin tissue and its unsaturated fats help to saturate the lips. Beetroot is rich in antioxidants that make the lips soft, supple and improve the elasticity of the skin.

#### THE ANATOMY OF LIPS:

Lip anatomy consists of a number of structures that affect both the function and appearance of the lip. Here is a brief summary of the lips structure:

**Skin:** The outer layer of the lips is skin, just like the rest of the body. Lip skin, on the other hand, is more delicate and thinner. The visible line dividing the vermilion-colored portion of the lips from the surrounding skin is known as the vermilion border.

**Vermilion zone:** The reddish region of the lips is known as the vermilion zone. It is crimson in color because it has more blood vessels than normal.

**Philtrum:** A vertical groove or indentation in the middle of the top lip that continues from the base is known as a philtrum.  
**Cupid's:** The cupid's bow is the double curve or V-shaped area in the middle of the top lip.

**Oral mucosa:** The inner surface of the lips is protected by a thin, moist layer of tissue called the oral mucosa. It is separate from the outer skin and aids in maintaining the moisture of the lips. To keep the lips moisturized and to facilitate speech and eating, lips include small glands called labia.

**Nerve ending:** One of the many muscles that make up the lips and are in charge of their movement and expression is the orbicularis oris, which surrounds the mouth and facilitates smiling and puckering. Lips are extremely sensitive to touch, warmth, and pain due to their high density of nerve endings.

### LIPS RELATED PROBLEMS:

Several illnesses or problems may have an effect on the lips. These are some common lip-related problems:

**Dry lips:** Dry lips are a result of the lips drying out and losing moisture. This can be caused by environmental factors including cold temperatures, dry air, or particularly frequent lip-licking. Dry lips may feel tight, split, or even peel.

**Chapped lips:** Lips that are chapped can be painful, uncomfortable, and sometimes bleed. Lips that are chapped are a more severe kind of dryness. Chapped lips can be caused by prolonged dryness, the sun, wind or bad weather.

**Cold sores:** Cold sores and fever blisters are both small, painful blisters filled with fluid that appear on or near the lips. They are caused by the herpes simplex virus and are very contagious.

**Inflammation / chelities:** An inflammation and cracking of the corners of the mouth are signs of the condition known as angular cheilitis. It could be brought on by bacterial or yeast infections, a lack of nutrients or prolonged exposure to wetness. Infections of the lips can be brought on by bacteria, viruses, or fungi. Infection is indicated by swelling, redness, pain, and the emergence of pus-filled blisters or sores

**Allergies:** Some individuals may develop allergies to specific ingredients in food, cosmetics, or lip care products. Allergy symptoms include swelling, itching, redness, and even lip blistering.

**Lip discoloration:** A variety of things, including sun exposure, smoking, some medications or underlying medical conditions, can alter the color of your lips. Lips may appear darker in this circumstance.

### TYPES OF LIPBALM:

#### 1) Stick Balm:

The most popular format of the balm, as it is easiest to use, just unscrew the stick a little and apply it to your lips. It can be both colorless and tinted.

#### 2) Tube Lip Balm:

Cream or gel texture lip balm is easier to apply directly from the tube. Try Lancome Absolue Precious Cells Nourishing Balm, one drop of which is enough to keep your lips moisturized and smooth throughout the day.

#### 3),Liquid lip balm (gloss-balm):

Liquid balm is essentially a lip gloss that has caring properties. This type of lip balm is not found so often, but if you are more used to using the applicator to apply the product on the lips, it will suit you perfectly.

#### 4) Solid lip balm:

Compact size is the main advantage of a solid lip balm: this type fits even in a small clutch. Apply the contents from the jar with your fingers, patting movements. Thus, you massage your lips and improve blood microcirculation.

#### 5) Oily Lip balm:

This balm has an oily texture, is available in bottles with an applicator, like lip glosses, and boasts a high oil content. For example, YSL's Volupte Tint-In-Oil contains as many as four – apricot, coriander, jojoba, and passionflower. The product intensively nourishes the lips, gives them a glossy shine and a light shade (there are six colors in the palette).

#### 6) Balm-Lipstick:

The usual lipstick to obtain the status of a balm should, firstly, have a soft and delicate texture, and secondly, take care of your lips.

A worthy example is the Ecstasy Shine Lipstick by Giorgio Armani. This line includes one and a half dozen different shades, the saturation of which can be adjusted

#### 7) Balm-Tint:

It seems like these two products – balm and tint – cannot coexist peacefully: the classic tint dries lips quite strongly, and the lip balm, on the contrary, is designed to moisturize them.

, a high-quality balm-tint combines the best qualities of two means – makes the lips a little brighter, but at the same time perfectly cares for However them.

#### 8) Moisturizing Lip Balm:

These lip balms mainly focus on hydrating and softening the lips. Common Ingredients Shea butter Cocoa butter Glycerin

#### 9) Sunscreen (SPF) Lip Balm:

These lip balms protect lips from harmful ultraviolet (UV) rays  
Common Ingredients Zinc oxide Titanium dioxide

### MARKETED LIPBALMS:

A marketed lip balm is a commercially manufactured and sold lip care product available in the market under different brand names. These products are formulated to moisturize, protect, heal, and beautify the lips.

Marketed lip balms may contain herbal, medicated, cosmetic, or synthetic ingredients depending on their purpose.

Features of Marketed Lip Balm:

- Features of Marketed Lip Balm
- Ready-to-use formulation
- Attractive packaging
- Longer shelf life
- Available in different flavors, colors, and forms
- May contain SPF protection and therapeutic agents

Examples of Marketed Lip Balm Brands: Vaseline Lip

#### Therapy:

- Petroleum jelly-based lip balm
- Provides deep moisturization

#### Nivea Lip Balm:

- Available in flavored and tinted variants
- Contains shea butter and SPF

#### Maybelline Baby Lips:

- Cosmetic tinted lip balm
- Provides shine and hydration

#### Himalaya Herbal Lip Balm:

- Herbal formulation
- Contains natural oils and butter

#### Biotique Bio Fruit Lip Balm:

- Ayurvedic and herbal ingredients
- Nourishes dry lips

#### Lotus Herbals Lip Balm:

- Herbal lip care product with SPF

#### Ingredients Commonly Found in Marketed Lip Balms:

- Beeswax
- Petroleum jelly
- Shea butter
- Cocoa butter
- Coconut oil
- Vitamin E
- Flavoring agents
- Colorants
- Sunscreen agents

#### BENEFITS OF LIPBALM:

**Your skin heals faster**

The skin on your lips is thinner than your facial skin. So in case you are suffering from chapped and dry lips, using a lip balm will ensure that your lips are well hydrated and they heal faster.

#### You avoid the embarrassment of chapped lips

If you've ever experienced chapped, peeling and cracked lips, you will know exactly how embarrassing it is. During the winters, this thin layer is easily licked off. In combination with cold and windy weather, this often leads to chapped and dry lips. Thus, it is mandatory to wear a lip balm.

#### They'll appear suppler

Thin and dry lips turn plump and moisturised with a sweep of balm giving your lips the perfect movie star pout! There are plenty of lip glosses that claim to plump your lips, but moisturising them every day is a great way to ensure that you maintain a youthful, supple look.

#### Contains SPF protection

Most of the lip balms these days, have SPF in them. This will automatically help your lips from becoming dry and chapped and will protect against the harmful rays of the sun as well.

#### Protect against the sun

Lip balm is an all-year-round kind of product, including the summers. One of the benefits of using lip balm is that it forms a protective barrier around your lips and shields them from harsh UV rays. Constant exposure to UV rays can result in hyperpigmentation on and around the lips, and can even dry it out. Applying lip balm provides that protection and keeps your pout nourished as well.

## II. MATERIAL

#### Drug Excipients:



Fig no 2: Beetroot

#### Beetroot Nomenclature:

- Kingdom: Plantae
- Clade: Tracheophytes
- Genus: Beta
- Species: B.

**Synonyms:** Chukandar, Sugar beets, Mangel, Spinach beet .  
**Biological source:** It consists of fresh root of Beta vulgaris  
**Family:** Amaranthaceae  
Beetroot on lips assists in getting with freeing of hazier lips making your lips more splendid and lighter. Likewise, the pink shade of beetroot adds a hint of pink to your lips. Beetroot gives incredible sustenance to your lips. It recuperates dry and dried out lips oand goes about as the best normal cream for your lips. Beetroot makes your lips succulent and stout.

#### Honey bees wax



Fig no 3: Honey bees wax

#### Synonyms: Cera alba

**Organic source:** Beeswax is naturally occurring wax produced in the bee's hives by honeybee. Mellifera Glands under the abdomen of the bee's secrete this wax and it is used to build the honey comb

#### Family: Apidae.

Beeswax is very saturating, can help shield the lips from the unsafe beams of the sun, and has a lovely smell. Beeswax goes about as a characteristic emulsifier [12]. Research has likewise found that beeswax incorporates a little amount of regular enemy of bacterial specialists. This is especially valuable for individuals who have unnecessarily dry and broken lips. These against bacterial specialists can assist with forestalling the excruciating irritation that accompanies contamination.

#### Castor Oil

One of the benefits of castor oil for lips is that it might go about as a characteristic boundary that keeps water from getting away from your lips, thus keeping your skin from chipping or drying.



Fig no 4: Castor oil

In addition to being good for your skin and lips, castor oil is also used for the following purposes: **Laxative:** When taken orally, castor oil is a strong laxative (according to the study conducted in 2012);

**Anti-inflammatory:** The ricinoleic acid in castor oil can reduce inflammation and pain associated with it, according to a 2015 study  
**Antibacterial:** A 2016 study in rats showed that castor oil has strong antibacterial activity;

**Antifungal:** Castor oil has antifungal properties, according to a 2013 study that focused on bacteria (*Enterococcus faecalis*) and fungi (*Candida albicans*) in the oral cavity. In summary, castor oil is considered safe for the skin and lips of users. This is a common ingredient in skin care products. Despite the fact that it is possible to have an unfavorably susceptible response to castor oil application, this is exceptionally rare.

#### Vitamin E



Fig no 5: Vitamin E

Synonym : Eprolin, RRR-alpha-tocopherol, Vitamin-E.,

Biological source : Vitamin E is obtained from various foods and oils. Synonym : Eprolin, RRR-alpha-tocopherol, Vitamin-E., Biological source : Vitamin E is obtained from various foods and oils.

**Family: Tocopherols.**

Vitamin E is a cell reinforcement and a characteristic conditioner. Vitamin E assists with keeping up with the delicate, more youthful surface of the lips by bringing down the indications of maturing.effective.vitamin E oil might be utilized to lighten dried, dry lips. Since vitamin E advances cell turnover and recovery, its use of it on dry lips carries new cells to the surface quicker. The thick and sleek consistency of vitamin E oil can likewise prevent comparative disturbance.Vitamin E is a strong cancer prevention agent that can assist with safeguarding your lips from ecological and free extreme harm by reestablishing and renewing skin cells and reinforcing the skin's regular defensive obstruction.

**Sesame Oil:**

It's wealthy in cancer prevention agents: Studies have demonstrated that once done topically, Sesame Oil might decrease cell harm by repressing specific mixtures known to create DNA-harming free extremis It can speed the mending of sun related burns, breaks, injuries, and wounds Sesame Oil's compelling cell reinforcement and hostile to- provocative properties help to accelerate recuperation time and have moreover been demonstrated to animate collagen creation at the site of the injury.



Fig.no 6 Sesame oil

**Rose oil**

Saturate Your Lip Keeping your lips hydrated involving rosehip oil will help with keeping them full and lessening the

appearance of kinks. Rosehip oil is significant for keeping up with lips smooth and youthful. Flexible lips: With a swipe of rosehip oil, meager, dry lips arise as stout and saturated, giving you a definitive celebrity frown! A few lip gleams guarantee to full your lips, in any case, saturating them consistently is a mind boggling strategy to keep up with your lips looking youthful and graceful.



Fig no 7:Rose oil

**Honey:**



Fig no 8.Honey

Honey is a characteristic humectant, and in view of this that it draws in and holds dampness, keeping your lips hydrated over the course of the day. Honey additionally has mitigating properties to assist with alleviating dried lips. Honey's antibacterial properties additionally help to forestall contamination assuming that the lips become broken. It has been reported that honey can facilitate removing necrotic tissues, increase the granulation and epithelialization speed, and reduce Scars

**FORMULA:**

Ingredients	F1	F2	F3
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Beeswax	2 gm	3 gm	2.5 gm
Castor oil	1.5 ml	2 ml	1.5 ml
Vitamin E	2 gm	2.5 gm	2.5 gm
Sesame oil	3 ml	1.5 ml	2 ml
Rose oil	Q.S	Q.S	Q.S
Honey	Q.S	Q.S	Q.S
Beetroot powder	2 gm	1.5 gm	1 gm

Table no. 1

**Properties of ingredients:**

Ingredients	Role of ingredient
Beeswax	Impart hardness and glossiness
Castor oil	Humectant
Vitamin E	Maintain Stability of formulation and act as antioxidant
Sesame oil	Protect skin damage
Rose oil	Flavouring agent
Honey	Anti-inflammatory and Anti-bacterial activity
Beetroot powder	Anti-septic and natural moisturizer

Table no. 2

### III. METHODOLOGY

**Formulation procedure of lip balm:**

- Weigh accurately all the required ingredients.
- In a clean evaporating dish, take Bees wax first and melt it in a water bath (not exceeding the temperature range of 50-64°C).
- Then add the beetroot powder, Sesame oil and castor oil respectively and stir vigorously and label it as A.
- Then in another evaporating porcelain dish, take Honey and Vitamin E (pour the capsule content into Honey) and mix thoroughly and label it as B.
- Pour the contents of porcelain Dish B into Dish A by observing the uniform temperatures of both the dishes and adding it drop by drop with vigorous stirring.
- At last, add Rose oil to the Formulation lastly empty the fluid lip medicine into a clean wide-mouth holder.
- Keep the lip balm for cooling at room temperature.

**EVALUATION:**

- **Organoleptic properties:** organoleptic characters such as colour, odour, taste and appearance of lip balm was studied
- Measurement of PH: To check for any negative effects, the lip balm's pH was measured. It was decided to keep the formulation's pH as close to neutral as possible because an acidic or alkaline pH may irritate lips. 1gm of the material

was dissolved in 100ml of water to study the pH value. A pH metre was used to measure the pH..

- **Stability studies:** For testing and to speed up research, prepared lip balm was examined. for 30 days at various temperatures, including room temperature (25°C), refrigeration (5°C), and over temperature(40°C), and its spreadability, PH, and organoleptic characteristics were assessed.
- **Test of spreadability:** The test of spreadability is carried out by applying the product at room temperature repeatedly on the glass slide to visually observe the uniformity in the formation of the protective layer and it is observed that whether the stick fragmented, broke or deformed during the application. For this test following criteria were established by analyst: G - Good: uniform, perfect application, no fragmentation, without deformation of lip balm. I – Intermediate: uniform, leaves few fragmentation, appropriate application, few deformation of lip balm. B- Not uniform, leaves many fragments, inappropriate application, intense deformation of the lip balm.
- **Skin Irritation Test:** It is carried out by applying small amount of formulated product on the dorsal surface of left hand skin for 10 minutes of 20 participated voluntary candidates. Then any kind of inflammation, rash, erythema, edema on skin examine.
- **Melting point:** Capillary containing drug was dipped in liquid paraffin inside the melting point apparatus which was equipped with magnetic stirring facility. Melting was determined visually and melting point was reported.

**ADVANTAGES OF LIPBALMS:**

- Lip salves help to safeguard the normal wellbeing and excellence of the lips.
- Sun block lip balms are proved to prevent ultraviolet rays from hurting the lips.
- They are not orientation explicit items and all kinds of people can utilize them.
- Lip analgesic items help to safeguard lips impacted by mouth blisters, drying and dryness.
- It refreshed, renewed and also addresses lip related symptoms resulting from colds, flu and allergies.
- The use of natural lip cosmetic to treat the appearance of the face and condition of

**RESULT:**

parameter	F1	F2	F3
Colour	Faint red	Red	Red
Odour	Pleasant	Oily	Pleasant
Appearance	Partly roughs	Oily smooth	smooth

Ph	6.0	6.4	6.2
Stability	Faint red colour	Oily and red colour	Smooth and red colour
spreadibility	I: intermediate	G- uniform	G- uniform
Skin irritation	No	No	No
Melting point	52	56	60

Table no.3

#### IV. RESULT AND DISCUSSION

Lips have veritably thin skin and veritably susceptible to drying out, eventually dicing of lips takes place. 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 result drying of lips, antipathetic response and darkening. Current exploration aims to produce a lip balm 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. These colors are called betalains. 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 betacyanins is betanin, which makes up 75 to 95 and gives beets their

#### V. CONCLUSION

Due to increasing demands of beauty enhancing products cosmetics industry is growing. The present work carried out for the formulation and evaluation of herbal lipbalms was aimed to formulate a lip balm using herbal ingredients with an idea to minimize the side effects which occur by using available chemical based synthetic lip balms. It can be concluded that lip balm formulation was successfully prepared by using these natural additives. In this study, formulated lipbalm with betacyanin pigment enriched with natural oil; moreover, it can reduce the oxidative stress of lip, thereby preventing dry lips and slowing the aging of lips. Therefore, it can be used as Cosmeceutical.

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