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# Development and Evaluation of an Aloe vera-Niacinamide Polyherbal Lip Balm for Depigmentation.

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**ABSTRACT:** Lip pigmentation is a common cosmetic and dermatological concern that affects a large portion of the population. Factors such as excessive sun exposure, dehydration, smoking, hormonal changes, nutritional deficiencies, and frequent use of synthetic or chemical-based lip products often contribute to the darkening of the lips. As consumer preference shifts toward safer, herbal, and naturally derived formulations, polyherbal lip balms have gained significant attention due to their healing, moisturizing, and depigmenting benefits. In this study, an Aloe vera–Niacinamide polyherbal lip balm was developed and evaluated to explore its effectiveness in reducing lip hyperpigmentation while simultaneously providing hydration and nourishment.

Aloe vera is highly valued for its soothing, anti-inflammatory, antioxidant, and moisturizing properties. The presence of polysaccharides, vitamins, and amino acids helps repair damaged skin, promote hydration, and improve lip texture. Niacinamide (Vitamin B3), is a scientifically supported depigmenting agent known for inhibiting melanin transfer, enhance skin barrier repair, and reduce inflammation. When incorporated together in a lip balm base, these two ingredients act synergistically to lighten dark lips, enhance softness, and protect the lips from environmental stressors.

The lip balm was evaluated for its organoleptic properties, spreadability, melting point, pH, stability, and moisturization ability. The formulation displayed good consistency, smooth application, acceptable pH, and high stability during storage. User-based observations indicated noticeable improvements in lip softness and hydration, along with gradual lightening of lip pigmentation upon regular application.

Overall, the Aloe vera–Niacinamide polyherbal lip balm demonstrates promising potential as a natural and effective depigmenting formulation. Its hydrating, healing, and melanin-reducing properties make it a suitable alternative to synthetic lip care products. This study supports the growing interest in herbal-based lip treatments and highlights the therapeutic value of combining Aloe vera and Niacinamide for safe, long-term lip care.

**KEYWORDS:** Lip balm, Lip dryness, Depigmentation, Lip moisture , Polyherbal

## I. INTRODUCTION

Cosmetics have been extremely popular among people since ancient times but today's consumers seem to be leaning more towards cosmetics that come from natural sources. The main reason for this change is that people nowadays have become very conscious of the issues related to the use of harmful synthetic excipients and dangerous chemical ingredients in conventional formulations. It has turned out that people have started to examine their personal care ingredients very closely and as a result, they are looking for products in which the potentially irritant or even toxic components that are normally found in the traditional beauty products have been substituted with safer ones.

Among other features, the lips are a very sensitive and noticeable part of the face; however, unlike the rest of your body, they do not have the natural protection of the skin. This is a major reason why lips are so vulnerable to external factors leading to dryness, cracking, and chapping. In addition to that, lips have no sebaceous (oil) or sweat glands and

thus, there is no production of sweat and body oils which are necessary in providing lips with protection against the environment. These physiological factors combined together make lips highly affected by the changes in weather such as cold, dry air, and being exposed to UV rays.

There are toxic substances like petrolatum, synthetic waxes, alumina, parabens, and artificial fragrances or colors which are mostly found in the ingredients list of traditional or conventional lip balms. One major health and safety concern is that lip balms are often accidentally swallowed, and health regulators have therefore raised serious concerns. Because these products are applied to the very sensitive labial mucous membrane, which is highly susceptible to the influence of environmental factors, the safety of their ingredients is very important.

In an attempt to overcome these safety issues, the industry has looked to cosmeceuticals products that offer cosmetic benefits while containing biologically active ingredients with medicinal or drug, like effects. Herbal products are regarded as expressions of safety, satisfaction, and certainty as they use biocompatible and biodegradable ingredients such as beeswax, botanical oils, and nutrient, rich extracts. These natural ingredients supply the skin with the essential antioxidants and fatty acids necessary for the care of the lips, they also contribute to an increase in the skin's elasticity, and they create an occlusive, moisture, resistant protective film that retains hydration without the negative effects of synthetic chemicals.

## **II. ADVANTAGE OF USING PLANT EXTRACTS IN LIP BALM**

The foremost benefit of incorporating plant extracts in lip balms is their potential to serve as a safe, effective, and skin, compatible alternative to toxic synthetic components.

Herbal formulations are like a guarantee of safety, fulfilment, and satisfaction, as they possess medicinal properties that protect the skin from degenerative conditions with very few side effects. More often than not, these extracts fall under the category of cosmeceuticals, i.e., products that are the perfect blend of aesthetics and therapy since they supply the skin with the vital nutrients, vitamins, and minerals that deeply nourish it at the cellular level.

Lip skin is devoid of its own oil glands and is vulnerable to accidental product ingestion; therefore, plant, based ingredients are favored mainly because they are biodegradable and do not contain any harmful heavy metals such as lead or cadmium typically present in regular cosmetics.

Plant extracts which are biologically active offer the best moisturization and help in maintaining the lips' barrier which is very sensitive.

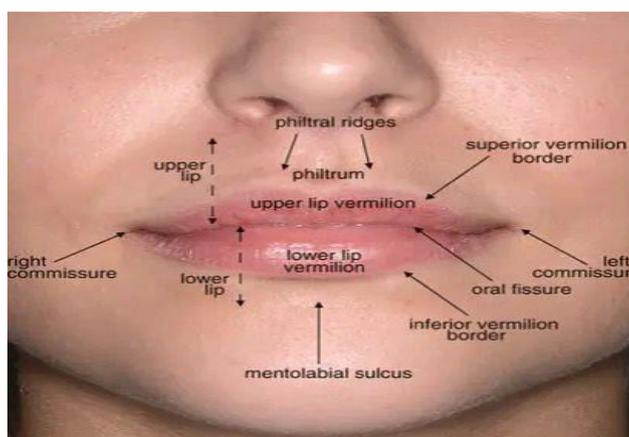
These natural extracts help the skin to keep hydrated. Besides that they provide healing, protective, and other skin benefits such as antioxidant of which the most common ones are the ones in beetroot and pomegranate which contain betalains and punicalagins that can help in fighting free radicals, collagen production, and aging prevention. There is also the example of turmeric and papaya extracts which have the property of killing bacteria like *Staphylococcus aureus*. On the other hand, rosehip and sesame oils promote rejuvenation and help in reducing wrinkles. Therefore, these natural ingredients help lip balm to do not only beautifying but also the repairing and physiological health of the lip maintenance act.

Plant extracts are safe and effective natural colorants and fragrance enhancers that also help reduce the use of harmful synthetic dyes and artificial scents. For instance, beetroot powder and dragon fruit peel deliver attractive red and pink colors from natural betacyanins, and at the same time, they have gentle exfoliating properties to loosen dead skin cells. Extracts of rose and sandalwood essential oils convey nice smells and relaxing effects without the irritation that is often caused by synthetic perfumes. In the end, the incorporation of polyherbal extracts keeps up with the currently popular sustainable beauty trend by offering a comprehensive and environmentally friendly lip care approach that aesthetically pleases while promoting health over time.

Adding plant extracts to lip balm is akin to giving your skin a nourishing, freshly prepared meal rather than a synthetic supplement; it goes beyond merely quenching (dryness), it offers the variety of vitamins and minerals that the body requires in order to flourish and heal itself naturally.

### III. ANATOMY OF LIPS

The lips are complex organs that play an essential role in speech, suction, and prehension, and their anatomical composition includes skin, superficial fascia, the orbicularis muscle, areolar tissue and a mucous membrane.



From the outside, the upper lip is the portion of the face between the nose and the oral cavity, and it has a central depression below the nose called the philtrum, whereas the lower lip is separated from the jaw by the labiomenal groove. The lateral boundaries are formed by the nasolabial grooves, which separate the lips from the cheeks. The anatomical structure is divided into five main regions: the vermillion/white roll, subvermillion, peristomal, philtral column, and commissural areas.

A distinguishing characteristic of lips is that their histological structure differs significantly from that of normal facial skin; the outer corneum layer is much thinner and contains only 3 to 4 layers as opposed to the normal 15 to 16 layers. As lip skin has very few melanin cells, the blood vessels are seen more clearly through the surface, thus the lips have a natural pinkish or reddish color. Most importantly, the lips do not have hair follicles, sweat glands, and sebaceous (oil) glands, which is why they do not receive the natural sweat and body oils to protect them from environmental stressors such as UV radiation and dryness.

On the inside, the lips are covered with a moist mucous membrane that has vascular papillae and touch corpuscles. This membrane comes from the lips and goes over the gums, thus making two midline folds that are called the superior and inferior labial frenula. The submucous layer is home to the labial glands which produce mucous as well as the coronary vessels namely the superior and inferior coronary arteries that branch off the facial artery and surround the mouth. The nerve supply is very dense making the lips highly sensitive; the lower lip gets its nerves from the mental nerves which come out through the mental foramen. Lastly, the lymphatic vessels of the lips drain into submaxillary organs and glands situated just above the hyoid bone.

The anatomy of the lips is about like a delicate silk curtain in comparison with the heavy canvas of the rest of your skin; since it is so thin and does not have its own protective coatings (oil and sweat), it shows the vibrant "machinery" (blood vessels) underneath and therefore needs care from the outside to keep it intact.

### IV. TYPES OF LIP BALM

The literature evidences an extensive spectrum of lip balms along with their delineations on the basis of primary functionalities, constituent elements, and therapeutic advantages. First of all, emphasis is laid on organic and natural lip balms which are considered to be safer options than the regular ones and these products contain such ingredients as beeswax, jojoba oil, and vitamin E which help to moisturize and protect without the use of toxic synthetic additives.

Herbal and polyherbal lip balms are a differentiated part of the market that incorporates multiple botanical extracts such as beetroot, pomegranate, and aloe vera to generate healing, antioxidant, and anti-inflammatory effects through

synergy. Frequently, they are termed as cosmeceuticals, which is a product category that combines features of cosmetics and pharmaceuticals and thus offering both the appearance improvement and the treatment of skin disorders.

Several functional types of lip balm are identified according to their main usage:

*Tinted Lip Balms:* These lip balms deeply hydrate the lips and at the same time provide a bit of colour on them. They thus can be regarded as a less pigmented and more nourishing substitute for traditional lipsticks.

*SPF and Sunblock Lip Balms:* These products are made to protect the sensitive skin of the lips against the damaging effects of ultraviolet (UV) radiation from the sun. They therefore reduce the chances of sunburn, early skin aging, and skin cancer.

*Medicated Lip Balms:* Medicated balms are commonly recommended by dermatologists and are thus considered the least irritating and most comforting options for healing extremely chapped lips, cold sores, and angular cheilitis.

*Flavoured Lip Balms:* These balms contain either natural or artificial flavours such as vanilla, mint, or mango to compensate for the taste and the scent in addition to their moisturizing function.

*Plumping Lip Balms:* The main component(s) of this kind of lip balm work(s) the way that the lips look rounder, fuller, and more voluminous after usage thus the consumer is not necessarily required to undergo surgery for enhanced lips.

*CBD or Hemp Oil Lip Balms:* This new type uses hemp oil for its excellent moisturizing ability or CBD oil for its healing and soothing gel properties for amazingly revitalized and helped lips.

No matter what kind they are, the sources agree that the quality of these products is basically a matter of a judicious mixture of butters, oils, and waxes. Thus, whereas the synthetic ones often use petroleum, derived ingredients like petrolatum and mineral oil to get that shiny look, the herbal ones are all about biocompatible substances that actually feed the lips at a cellular level.

Opting for a certain kind of lip balm is like picking out a specific tool from a toolbox; although a simple basic 'hammer' (standard balm) might just be offering you a surface level protection, a 'medicated' or 'SPF' version is essentially giving you the correct therapeutic 'tweak' that your lips require for certain environmental or health situations.

## V. APPLICATION OF LIP BALM

-Lip balms are usually a mixture of ingredients that you apply to your lips to stop them from getting dry and to give a protective barrier against harmful environmental factors such as dry air, wind, pollution, and ultraviolet (UV) radiation.

- Their chief objective is to form an occlusive film on the skin that keeps the moisture in since lips have no sebaceous glands and a very thin skin layer, which makes them very susceptible to cracking and chapping. Moreover, lip balms are a therapeutic modality for the relief of symptoms of angular cheilitis, stomatitis, and herpetic cold sores.

-These preparations are also used to lessen discomfort and the symptoms of the lips due to colds, flu, and allergies, thus assisting in the refreshing and renewing of the damaged tissue.

- In the frame of present day habits and beauty, lip balms are very popular to make the lips more attractive, to give them a nice shine and to add a "glamour touch" to makeup routines.

However, there is a special class of lip balms like SPF or sunblock ones that are generally used for the lips as a sunscreen, hence, they perform the function of protecting the skin of the lip mucous from burning and thus, their regular use reduces the risk of skin cancer in the long run.

Since these items are on the face frequently and thus, they can easily be eaten by mistake, a lot of attention is drawn to selecting natural or herbal products that do not contain toxic chemicals and harmful dyes found in normal cosmetics. After all, lip balm is an attractive, unisex cosmetic that can be used for daily care by both men and women to keep lips soft and fresh throughout all the seasons.

-Using lip balm can be compared to coating a fragile sponge with a waterproof sealer; if you do not apply the sealer, the sponge will rapidly lose its moisture from the inside and become dry when exposed to the air, whereas the sealer forms a protective layer that keeps the sponge smooth and usable no matter what the surrounding conditions are.

## VI. ADVANTAGES OF POLYHERBAL LIP BALM

-The main edge of polyherbal lips balms is their function as cosmeceuticals which unite the worlds of beauty and health by offering skin care products with therapeutic effects and a very small number of side effects. In contrast with traditional products that often contain toxic synthetic excipients like petrolatum, parabens, and even harmful heavy metals such as lead, cadmium, and chromium, herbal formulations are considered as a new level of safety, certainty, and satisfaction.

-Moreover, these kinds of formulations bring great effect because they are biocompatible, biodegradable, and free of synthetic colorants which are both unsafe and harmful to health when the user inadvertently eats some of it. Since the histological structure of lips is very different from other skin areas: they are extremely thin and, in addition, there are neither hair follicles nor sweat glands slightly different polyherbal balms offer an essential occlusive layer that keeps in moisture and protects the labial mucosa from the damaging effects of UV rays, wind, and pollution.

-Besides basic safety, these preparations confer antioxidant, anti-inflammatory, and antimicrobial effects through the synergistic combination of plant extracts. For instance, a beetroot and pomegranate are loaded with betalains and polyphenols, which scavenge free radicals, thus lessening oxidative stress and decelerating the aging of the lips. Other ingredients like honey and beeswax work as natural antibacterial agents, which are very important in repairing cracked or chapped skin and in preventing infection by cold sores or angular cheilitis.

-Another thing that polyherbal balms have in common is that they are made from natural oils such as almond, coconut, and castor oil, which deeply penetrate the skin to supply it with essential fatty acids and vitamins, hence stimulating cell regeneration and preserving a smooth, youthful appearance.

-Polyherbal balms are also distinguished by their functional and aesthetic advantages as they offer natural color and scent without the use of synthetic dyes or perfumes that may cause allergic reactions. Dragon fruit or beetroot extracts give a nice healthy color and glow, whereas essential oils such as rose or sandalwood provide a delightful fragrance and have a soothing effect. Also, several herbs like virgin coconut oil and crude palm oil have the property of natural sun protection (SPF), thus protecting the sensitive lip area from UV harm. These cosmetics are not for a specific sex, thus making them a convenient and affordable option for both men and women to treat and keep the physiological condition of their face. At the end of the day, the move to polyherbal lip care is in line with the sustainable beauty trend, thereby providing a premium quality, environmentally friendly option for the health of lips in the long run.

## VII. LIMITATIONS OF POLYHERBAL LIP BALM

-Polyherbal lip balms come with great safety and healing benefits, yet the literature also points to a number of their drawbacks in terms of stability, physical characteristics, and longevity of effect.

- One of their most pressing technological issues is that they are quite vulnerable to environmental factors like temperature, moisture, and light.

- In particular, stability tests show that storing the product at high temperatures, like in an oven at 40C, should be avoided because it could lead to a considerable loss of product effectiveness. Besides, elevated temperatures can induce "fat bloom" or texture changes, thus the balm surface might look somewhat rough, oily, or warped.

Another major drawback is that natural additives are not only difficult to source but also unstable. Natural colors and flavors are usually less available than the synthetic ones. Besides that, plant ingredients often cause stability issues in the formulations which makes it harder to keep the same look and smell over time.

-The same sources mention that the natural oils in such products can be overly greasy and comedogenic (pore-clogging), which may lead to user dissatisfaction. On top of that, these natural oils might be less spreadable, hence, the application wouldn't feel as smooth as that of the traditional products.

-Polyherbal and homemade lip balms typically do not provide lasting effects on lips as commercially prepared synthetic versions do. Due to this lower effectiveness, it is necessary to apply the lip balms more frequently if one wants to keep the protective moisture barrier intact.

-At the same time, there is a valid concern of product quality and consumer habits; if cheap or poor, quality natural ingredients are used in making lip balms, the product can cause serious damage to the lips which may lead to dryness instead of hydration. Besides that, the articles mention the phenomenon of "lip balm addiction," which refers to consumers becoming dependent and hooked on constant use of the product.

Moreover, if a manufacturer decides to focus solely on the aesthetic aspects of the product ignoring the health benefits, the resulting product may slowly be destructive to the natural color and softness of the lips.

-Choosing a polyherbal lip balm is akin to having a freshly picked flower bouquet versus a plastic one; although the former is natural and beneficial for the environment, it is also quite vulnerable, can easily wilt with heat, and thus requires more frequent care to remain attractive and functional.

### VIII. INGREDIENTS USED IN LIP BALM

#### 1) Oil and Lipophilic Phase

Almond oil is mainly classified as a hydrating oil that goes into skin layers to supply it with fatty acids. Beeswax and shea butter are from the same group; although the literature sometimes calls them "bases," chemically, they are lipophilic substances (waxes and fats) that have to be combined with oils when melted in order to give the balm its hardness and create a moisture, proof protective layer.

Castor oil, which is frequently mixed with these, also increases the shiny texture of this phase.

#### 2) Water and Aqueous Phase (Humectants and Extracts)

Aloe vera is mentioned in the article as a gel or herbal extract that acts as a natural humectant thus it helps to provide high hydration and calm the tissue that has been damaged. In scientific formulation, these hydrophilic components are usually added to the mixture at low temperatures (around 45C) to make sure that they keep their bioactivity and are well dispersed within the oily base.

The details of niacinamide are not taken from the sources, but it is a water, soluble form of Vitamin B3 that would usually be added to this aqueous/humectant phase.

#### 3) Colouring agents

These sources do not state that carmine red is a colouring agent; however, they do indicate that colouring agents are the key to making lips more beautiful and giving a "glamour touch" to the face. In the case of these sources, carmine red might be used to refer to other natural pigments like beetroot (betacyanins) or pomegranate, which not only render red hues but also supply antioxidant benefits. Please note that the information pertaining to carmine red and niacinamide is not sourced from the given excerpts and, thus, may require a separate verification for the chemical compatibility aspects in particular.

If you were constructing and painting a wooden boat, oils, beeswax, and shea butter would be the wood and waterproof sealant that give the structure, aloe vera and niacinamide would be the fresh water kept on the boat to keep the inhabitants (your skin cells) hydrated, and carmine red would be the brightly coloured paint used to make the boat attractive and easily visible.

### IX. INGREDIENTS

#### A] BEESWAX



Synonyms : Cera flava (Yellow beeswax) Cera alba (White beeswax) Apis wax Yellow wax/White wax.

Biological Source: Beeswax is a natural product of the honeycomb of the honeybee, *Apis mellifera*, and other *Apis* species. It is secreted by the wax glands of worker bees.

Family: Apidae

Chemical Constituents: Beeswax mainly contains:

Esters of fatty acids and long, chain alcohols (7075%)Hydrocarbons (1216%)Free fatty acids (1215%)Free alcohols (small amount)Coloring matter and traces of propolis and pollen Among common esters, there is myricyl palmitate.

#### B] ALMOND OIL



Synonyms : Oleum amygdalae, Sweet almond oil, Oleum amygdalae dulcis

Biological Source: Almond oil is the oil from the kernels of the seeds of *Prunus amygdalus* var. *dulcis* (Sweet almond), usually obtained by cold pressing

Family: Rosaceae

Chemical Constituents: Most of the Almond oil is made up of: Fixed oil (9598%), Oleic acid (6580%), Linoleic acid (2030%), Palmitic acid, Stearic acid, Fatty acids in form of glycerides, Unsaponifiable matter\* (very little), Sterols, Tocopherols (Vitamin E)

#### C] SHEA BUTTER



Synonyms: Butyrospermum fatKarit butterShea fatGalam butter

Biological Source: Shea butter is the fat extracted from the kernels (seeds) of *Vitellaria paradoxa* (formerly *Butyrospermum parkii*).

Family: Sapotaceae

Chemical Constituents: Shea butter consists primarily of:

Fatty acid triglycerides:Oleic acidStearic acidPalmitic acidLinoleic acidUnsaponifiable matter (5, 10%)triterpene alcohols (lupeol, amyrin)sterolstocopherols (Vitamin E)phenolic compounds

D] ALOE VERA



Synonyms: Bitter aloeCuracao aloeIndian aloeBarbados aloe

Biological Source: Aloe vera Drug is medically derived from the fresh leaf of Aloe vera (L.) Burm.f.The main chemical constituents of aloe vera are aloin, acemannan, and a few polysaccharides that help in skin healing.

Family: Liliaceae

Chemical constituent: Anthraquinone glycosides, Aloin (barbaloin, isobarbaloin)Polysaccharides, Acemannan, GlucomannanVitamins, A, C, E, B, complexEnzymes, Amylase, lipaseMinerals, Calcium, magnesium.

E] NIACINAMIDE:



Synonyms: NicocinamideVitamin BVitamin PP (Pellagra, preventive factor)Niacin amide

Biological source: Niacinamide is the amide form of niacin (vitamin B).It is present in nature in yeast, liver, meat, fish, cereals, peanuts, and milk, and has been made synthetically as well for pharmaceutical purposes

Family: Vitamin B, complex group(Water, soluble vitamins)

Chemical constituents: Niacinamide is a pure chemical compound, not a mixture -Nicotinamide -Molecular formula: C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O

F] CARMINE RED:



Synonyms: CarmineCochenilleCochenille redNatural red 4E, 120

Biological source: Carmine red is derived from the dried bodies of female insects *Dactylopius coccus* which live on *Opuntia* (cactus) plants.

Family: Dactylopiidae

Chemical constituents: -Carmine red mainly comprises: Carminic acid (the chief coloring principle)Aluminium or calcium salts of carminic acid (in purified carmine)Traces of proteins and fatsIt is a natural anthraquinone dye that has been used extensively in the pharmaceutical, cosmetic, and food industries.

### LIST OF INGREDIENTS

content name:	Therapeutic use for lips:
Beeswax	Form a protective barrier to prevent moisture loss, provides structure and hardness to lip products
Almond oil	Acts as an emollient, moisturizes dry and chapped lips, improve lip softness and smoothness
Shea butter	Provides deep nourishment, heals cracked lips, has soothing and anti-inflammatory properties
Aloe Vera	Soothes and hydrates lips, helps in healing dry, irritated, and sun damaged lips
Niacinamide	Helps in lip repair and lightening, improves lip barrier function, reduces pigmentation and dryness
Carmine Red	Used as a natural colouring agent, give red/pink shade to lips, improves cosmetic appearance

### X. EVALUATION PARAMETERS

The basic organochemical characteristics of the lip balm, including appearance, taste, odor, and color, were examined. pH

A PH meter and the capillary method are also frequently used to determine the lip balm's melting temperature and PH, respectively,

Melting point

In order to visually see the sample was inserted within glass needle possessing flame seal at one tip to find melting point. Prior to the melting point device with an electromagnetic agitation feature, the drug-containing capillary was immersed in liquefied paraffin solution. Melting has been determined through visuals, and it was noted what the melting point was.

Spreadability Test

In order to be able to see consistency of the creation regarding the shielding layer and determine if the stick split, broke, or warped while completing the utilization, the spreading capability test is performed by placing the substance on a glass slide at room temperature repeatedly. The evaluator developed the following standards for this test:

G: Good: lip balm is applied evenly, flawlessly, without fragmentation, and without deformation.

I: Intermediate: consistent, leaves minimal fragmentation, applies lip balm appropriately. and deforms minimally.

B: Bad: The lip balm is uneven, leaves many fragments or pieces, is applied incorrectly, and deforms slightly

Test for Skin sensitivity

To do this, the material was applied as a patch on the skin for half an hour, during which time the reaction was noted as:

N: No response;

R: Reddened/Rash on the skin; I: Itching/irritation,

Test for Stability

The produced formulation was tested for stability by being stored for 30 days at various temperature. Tests of the formulation were conducted at room temperature (25°C) and within a fridge at 5°C. On days three, seven, fifteen, and thirty, the appearance was evaluated

**XI. STEPS TO USE LIP BALM CORRECTLY FOR BETTER LIP CARE AND PROTECTION**

Most importantly, lip care is about knowing that lips do not have oil (sebaceous) and sweat glands, and also a thick stratum corneum, thus lips are very easily dried and cracked due to outer stressors, e.g., dry air and sunlight.

To get the best from a lip balm, one should opt for herbal or polyherbal formulations rather than the synthetic ones since natural ingredients are biocompatible and safer in case of accidental ingestion, the latter being a common habit of most users.

Step one in the right use of lip balm is to put on a soft, even layer of the balm in order to make an occlusive protective barrier which traps the moisture and protects the vulnerable labial mucous from the effects of the wind, pollution, and cold.

To ensure the best possible protection during hot weather, one should use a sun block or a lip balm with SPF so as to avoid sun damages that may cause red spots or white films which in the long run increases the risk of skin cancer.

Maintenance must be a regime with consistency throughout the day and across all seasons, as lip skin only has 3 to 4 layers as compared to 15 to 16 layers of regular facial skin.

Excessive lip licking should be avoided at all costs since such a habit leads to moisture loss and, consequently, the peeling, splitting, and tight feeling of dry lips.

Since homemade and natural recipes generally stay on the lips for a shorter time than petroleum, based synthetic ones, it is necessary to reapply more often in order to maintain a constant moisture film. In addition, people should check if the balm has a skin, friendly pH (near neutral, around 6.0 to 7.2) and is made with high, quality ingredients so that the tissues of the sensitive area do not get secondary drying or irritation.

Think of it this way: Caring for your lips is like trying to keep a fine silk piece of clothing from getting ruined by rain. Why? Because like the skin on lips is the "fabric" that doesn't have its own natural waterproofing (oil glands), you have to apply the protective sealant (lip balm) yourself and refrain from harsh friction (licking) so that the fabric doesn't get worn and faded.

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