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## Review Paper

# Herbal Lotions in Skincare: A Natural Approach to Dermal Health

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## ABSTRACT

A low-viscosity liquid preparation, lotion is generally applied externally to the skin to improve its appearance and offer moisture without causing friction. With the aid of an absorption substance, they are then applied to the skin. Presently, there is a rush in customer demand for natural ingredients and pure extracts used in cosmetic formulations. Natural herbs and their products/ extracts can be utilized to produce cosmetics as they are organic. The earliest, most precious, and widely used medicinal plant in the world is aloe vera. Cutting off the tip and base of the leaf, removing the mucilage, grinding it fully in a blending jar, adding vitamin E, processing the mixture, and cooling it down are some of the steps involved in preparing lotion. Once the gel has been ready to go, blend the measured amount of gel with the lotion recipe. After measuring the required quantities of each ingredient, including the gel, the lotion was ready. A wide range of tests was used to assess these formulations. The selection of the herbal product blend was made simply by ensuring that the formulation would be effective and free of negative effects.

## INTRODUCTION

Because of their possible benefits over artificial products, such as better skin health and reduced negative effects, herbal cosmetics are beauty items made from natural extracts. The demand for natural goods and natural extracts in cosmetic preparations rose as people began using indigenous plants and their products for their aromatic value. This is known as herbal cosmetics.

A lotion is a monophasic or biphasic solution, emulsion, or suspension that is intended to be applied frictionlessly to both broken and unbroken or stressed skin. The liquid solutions known as lotions are made to be used externally without creating any friction. Lotions may possess cooling, calming, or protecting properties locally. A shift toward a natural way of life is seen in the growing market for herbal cosmetics. Due to productivity, low side effects, and ecological compatibility,

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herbs are getting more and more popular. These products are carefully made with multiple herbal ingredients added to an initial base of approved cosmetic ingredients.

### Types of Skin<sup>[6]</sup>

**1. Normal Skin:** Normal skin looks like velvet and silky, seems glossy, flawless, and seems perfect and healthy. It is an uncommon variety having the fewest skin issues.

**2. Dry Skin:** Redness, a dull surface, dry white spots, flakes, cracks, and even cracks are the major symptoms of dry skin. Touching the skin frequently can also cause it to feel uneven and harsh. Dry skin shows less resistance to rubbing.

**3. Mixed Skin/ Combination Skin:** Oily skin on the forehead, jaw, nose, and dry skin on the cheeks,

jawline, and hairline are the defining traits of mixed skin.

**4. Oily Skin:** One of the most common dermatological issues that many people experience is oily skin. Oily skin looks shiny and greasy on the cheeks, forehead, nose, and chin due to increased pores. A greasy surface, acne, and blocked pores are a result of excessive sebum secretion from the sebaceous glands.

**5. Sensitive Skin:** The sensitive skin appears red, dry, frequently gets rashes, breaks out, and sunburns quickly due to external stimuli.

**Containers:** In order to differentiate lotions from the formulations designated for internal use, they should be transported in colored, fluted bottles.

**Storage:** Lotions should be kept in a cool, airtight container that is well-filled and well-sealed.



### Ideal properties of Herbal lotion:<sup>[7]</sup>

1. They should provide cooling effect on application.
2. They should be free from foreign particles.
3. They should produce softness and soothing effects after application.
4. They should reduce oily secretions on skin after use.

5. They should spread precisely on the skin surface.
6. They should be non irritant to the skin.
7. They should be pH compatible.

### Lotion Benefits:<sup>[2]</sup>

- It makes you feel and smell good.
- It helps to relax yourself.
- It softens the scaly skin.

- It brightens your skin.
- It helps to protect the skin.
- It helps to lock in the moisture.
- It fills up the extra dry or rough spots on the skin again.
- It provides hydration to the skin.

#### **Advantages of herbal lotion:** <sup>[3]</sup>

- Manufacturing processes are simple.
- Easily available and found in a wide variety of plants.
- They are mostly non-allergic and have fewer side effects.
- They are absorbed easily by the skin and hair.
- They offer greater stability, purity, and efficacy with their natural composition.
- The storage and handling of herbal cosmetics is easy.
- These formulations are economical.

#### **Cultural and Historical Prospective**

##### **Ayurveda** <sup>[8, 9]</sup>

Ayurvedic cosmeceuticals are said to be a safe and comprehensive way to improve beauty. Everyone can use them on every day of his life. These products serve in skin toning, soothing, smoothing, preventing aging, and preserving skin hydration. They, thus play a role in avoiding dryness and premature aging. Ayurveda says that one's complete health is reflected in how their skin appears. It illustrates how important it is to follow regular skin care routines at all stages of life. Herbs employed in Vedic are needed for cleansing the skin and to get rid of tarnished tridoshas, or tarnished humor, which are thought to be the primary cause of skin conditions and other diseases. Ayurveda provides an abundant variety of herbs that may boost healthy skin and an even tone.

##### **Skin and Doshas** <sup>[8]</sup>

Ayurvedic cosmeceuticals helps in maintaining the equilibrium of Kapha, which is essential for defining the health and beauty of the skin. To maintain the health of Kapha skin, warm oil massage treatment and skin scrubbing are recommended. Pitta-pacifying products play a role in the regulation of the skin's hormonal and chemical reactions by promoting metabolic activity. Skin types that are controlled by Pitta can be treated with sunscreens, protective lotions, and face oils. The flow of nutrients and blood circulation through the human body is regulated by vata. Therefore, treatments that balance vata help to feed the skin. Vata skin can be improved with the help of natural moisturizers and warm oil massage.

##### **Skin and Dhatus** <sup>[8]</sup>

The Rasa Dhatu manages tissues in the body and stimulates skin health. Therefore, treatments that increase Rasa Dhatu help to improve the health of the skin. By cleansing the skin, Rakta Dhatu prevents problems brought on by the growth of pollutants. Therefore, medications that purify Rakta also help to improve the health of the skin. Mamsa Dhatu gives the skin structure and hardness. All three Dhatus—Rasa, Rakta, and Mamsa—should be supported and maintained by ayurvedic cosmetics in order to enhance general skin health.

#### **Advantages of Ayurvedic Cosmeceuticals**

- Provide safety and cause minimal skin irritation.
- Better adherence among patients can be offered by the taste and compatibility of Ayurvedic cosmeceuticals.
- These natural products are free from harmful chemical reactions or undesirable side effects.



- They act at the cellular level, enhancing normal functions, absorbing effectively, and promoting healing.
- Natural fragrance offers a pleasant sensation with calming and soothing effects, especially when used topically for sunburn.
- Ayurvedic beauty products are effective in managing conditions such as premature aging, scars, pigmentation, skin sensitivity, dark circles, dandruff, hair damage, and alopecia.

### **Egyptian History**<sup>[10]</sup>

Cosmetics played a significant role in early Egyptian life, dating back to 5000 BC. Egyptians were advanced in cosmetics formulation, using natural ingredients like animal or vegetable oils mixed with minerals, herbs, and perfumes. Products were used for protection against the environment, personal grooming, and other purposes. Henna was used to dye palms, while perfumes held spiritual importance. Khol was a popular cosmetic for eye and brow makeup. Initially, green malachite was used in predynastic times. Later, during the dynastic period, black galena (lead sulfide) became the main ingredient. Another compound, like stibnite, phosgenite, and laurionite, was used for variations in tone. Animal fats and minerals such as magnesium oxide, iron oxide, and manganese oxide were also part of the Khol formula to promote overall skin health.

### **Chinese History**<sup>[10]</sup>

The goal of traditional Chinese medicine (TCM), which has been practiced for 2,000 years in China, is to balance external factors and internal organs by achieving yin and yang harmony. Acupuncture, tai chi, herbal medicines, and other techniques are used to keep the flow of qi (vital energy) constant. Li Shizhen's *Bencao Gangmu*, a significant medicinal literature from the 16th century, lists a

variety of herbal remedies for dermatitis, psoriasis, and eczema. While some are topical applications of a single component, the majority are decoctions of many components. Using extraction techniques, certain plant parts are used to create herbal extracts. TCM uses plants like mugwort and Carthami flos (safflower flower) to treat a variety of skin conditions and health issues. In particular, mugwort is famous for its oral usage in the management of high blood pressure, irregular menstruation, and GI problems. Another traditional ingredient in skincare products is Taoren (semen persicae), which is the kernel of a peach seed. Melon seed paste is Dong Gua Zi, a variant of semen benincasae. These elements are liver tonics, laxatives, and sedatives, among other things. Despite this, the historical usage of skincare in China has captured attention.

### **Challenges**<sup>[11]</sup>

Monitoring the herbal ingredients used and scientifically interpreting contradicting toxicological, epidemiological, and other data are serious hurdles. The following significant issues remain.

- Communication of uncertainty
- Pharmacological, toxicological, and clinical documentation
- Pharmacovigilance
- Understanding why the addition of harmful additives works
- Evaluating “drug” interactions
- Constraints with clinical trials and people available
- Standardization
- Safety and efficacy assessment
- Management within ranges of risk

### **Drugs and Excipients:**<sup>[5, 12, 13, 14]</sup>



**Table No.1: Ingredients used in the formulation**

Sr no.	Ingredients	Uses
1.	Alovera Gel	Moisturizer
2.	Honey	Humectant
3.	Glycerine	Moisturizer
4.	Almond Oil	Emollient
5.	Sandalwood Oil	Perfume
6.	Bees Wax	Protective and moisturizing agent
7.	Rose Water	Soothing Agent
8.	Saffron Oil	Improves Skin Texture
9.	Vitamin E	Antioxidant
10.	Distilled Water	Solvent

## 1. Alovera <sup>[1, 12]</sup>



Skin burns get blocked by its cooling characteristics. So as to cure or prevent many types of skin issues, like irritations, dryness, roughness, and itching, aloe vera is normally used as a moisturizer. It is used to reduce skin marks, pigmentation, redness, and itching also to act as an antifungal and anti-inflammatory. It is high in beta-carotene and vitamin C, and E. Hence, it

has anti-aging characteristics. Along with its cooling properties, it is rich in minerals and antioxidants that help in healing. It is used as a moisturizing agent for dry, rough, scaly, itchy, and sensitive skin, and even for acute skin irritation.

## 2. Honey <sup>[15]</sup>





A natural antiseptic and anti-inflammatory, honey helps in the healing of acne breakouts on the skin surface and prevents other infections. Furthermore, honey reduces redness and swelling caused due to acne. It cleanses toxins from the pores and regulates the accumulation of dust in the skin's pores. By offering long-term hydration, it

relieves skin dryness. Honey helps fade away the fine lines and wrinkles by hydrating the outermost layers of the skin. It is used as a wound-healing agent.

### **3. Almond Oil** <sup>[2]</sup>



Almond oil is an emollient that provides hydration, which can help moisturize and provide smoothness to the skin. Almond oil is usually safe for sensitive skin due to its non-irritating benefits and its light weight. It acts as an antioxidant. It also has anti-

inflammatory action. It may act as an immunity booster and increase good cholesterol levels. It also has anti-fungal and anti-bacterial properties.

### **4. Sandalwood oil** <sup>[3]</sup>



The primary uses of sandalwood oil are for skin care and cosmetic purposes. It proves effective for acne and rashes. It is referred to as Chandan by its Indian and Sanskrit names and it has cooling traits as well as aids in getting rid of dullness. It has

cooling, refreshing, disinfecting, exciting, and astringent properties. Good astringent for oily skin. It has a great fragrance.

### **5. Beeswax** <sup>[16]</sup>



Beeswax is a natural wax or exfoliator also known as *cera alba*, produced by honeybees to build their honeycomb cells where they store honey and raise their baby bees. Beeswax consists of esters of fatty acids and various long-chain alcohols. Food, cosmetics, and medications are all made with purified and white beeswax since it has skin-softening, anti-inflammatory, moisturizing, and protective properties. Occlusive agents inhibit trans epidermal water loss through the formation of a physical barrier on the skin's surface. It essentially locks in the moisture. It produces a

long-lasting therapeutic moisture barrier, relieves irritation and itching, and tackles the symptoms of aging. It keeps skin soft and moisturized and also treats psoriasis and eczema.

#### **6. Rose water**<sup>[15, 17]</sup>

Rose water is a great source of anti-inflammatory properties. It helps to provide a cooling effect and helps in reducing itching and redness. It helps to smooth skin irritation.



It hydrates and moisturizes the skin. It improves skin texture. Rose water calms the skin. Reduce skin heat and inflammation. It provides refreshing

effects. It also acts as an emollient. It helps to remove oily secretion upon application.

#### **7. Saffron oil**<sup>[12]</sup>



It is derived from the *Crocus sativus* flower. The bright red thread-like pistil known as saffron is considered to have originated mostly in Greece. It is the most expensive cosmetic ingredient in many skincare products. In order to treat tanned skin, the affected areas must be treated with an aim to

brighten the skin. Saffron can be used to treat acne-prone skin and to brighten and enhance the skin's natural luminescence.

### 8. Vitamin E<sup>[18]</sup>



Green leafy vegetables, nuts, seeds, and vegetable oils all include tocopherol, a sort of vitamin E. It prevents oxidative damage from free radicals. Besides, it helps the immune system and has anti-inflammatory properties. It also relieves inflammation and boosts the immune system. Formulae for dry skin, wrinkles, scars, and sun damage usually contain vit E.

### 9. Glycerine<sup>[13]</sup>

Glycerine is a great humectant used in skincare, haircare, and other cosmetic products to retain

moisture. It provides proper hydration to the skin. Glycerine is used as a moisturizer. It soothes dry and irritated skin and relieves skin inflammation. It helps to reduce wrinkles as it has anti-aging properties. It is used as a cleanser. It improves skin permeability.

### Preparation before the formulation:<sup>[4]</sup>

Make sure your working area and packaging supplies are properly cleaned and sanitized. It is important for the formulators to maintain personal



hygiene, like they should wear hand gloves, protective gear, a hair net, etc.

### **Formulation method of lotion:**

Aqueous ingredients such as distilled water, aloe vera extract. While the oily phase ingredient, beeswax, was melted. The aqueous phase is continuously stirred with the oil phase until a uniform emulsion is formed. After allowing the liquid to cool, add the sandalwood oil and additional preservatives while continuously stirring. Pour this mixture into a suitable container.

### **Evaluation Test** <sup>[15, 18, 19, 20]</sup>

#### **1. Physical evaluation**

The color, texture, odor, and condition of the final product were all analyzed through this test.

**Appearance:** The appearance of the lotion was observed visually.

**Color:** The color of the cream was observed visually.

**Odor:** The odor of the lotion was tested by sniffing.

#### **2. Irritancy:**

Mark the area on the left-hand dorsal surface. After applying the cream to the desired area, the time was recorded. Then it is checked if any inflammation, like erythema or edema, occurs.

#### **3. Washability:**

Applying a little amount of formulation on the dorsal side of your hand and washing it off with tap water lets to check it.

#### **4. pH Determination:** <sup>[21]</sup>

The pH was determined using a digital pH meter by first calibrating it using standard solutions of

buffers, then dipping an electrode in the sample solution, and then recording the pH value after preparing a dispersion of 5 grams of formulated preparation in 50 ml of purified water.

#### **5. Phase separation:**

This test is basically checked for 24 hr to 30 hr. To attain this, we need to store the moisturizer in a closed container at a temperature of 30-80 °C. Keep this formulation away from sunlight.

#### **6. Patch Test:**

A small amount of sample is placed on a piece of fabric and applied to a sensitive area of the skin, such as behind the ears or inner arms. A 1cm<sup>2</sup> skin area is treated with the prepared lotion. Control patches of a similar, known-brand cosmetic are also used. After 24 hr, the test site is assessed. If no reaction occurs, the test will be repeated two more times. If no reactions are observed after the third application, the individual is considered to be non-hypersensitive.

#### **7. Type of Emulsion Test:**

To identify which type of emulsion is produced, dye solubility and dilution tests are performed.

#### **8. Washability Test:**

A portion of the lotion was applied to the hand and allowed to be rinsed off under running tap water for 10 minutes. The period required for the moisturizer to be eliminated was recorded and reported. <sup>[10]</sup>

#### **9. Homogeneity:**

The lotion's homogeneity is evaluated by both tactile and visual inspection.

#### **10. Spreadability:**



The Spreadability test is performed to evaluate whether the lotion spreads easily on the skin or not. The parallel plate method is a commonly used method to determine the spreading ability of the lotion.

### 11. Stability Test:

Stability test of lotion involves the chemical, physical, and microbiological coherence over a specific period under varying conditions to make sure its safety and effectiveness throughout shelf-life. To examine microbial growth, the sample is put in the center of the Petri dish, and the dish is then incubated for 72 hours at 37°C.

## CONCLUSION

It can be concluded that the formulation of herbal lotions is a meticulous procedure that effectively combines traditional botanical knowledge with modern scientific techniques. Herbal lotions formulated with Aloe vera and other natural ingredients provide a mild yet effective approach to skincare. Renowned for their soothing, hydrating, and restorative properties, these natural blends help maintain skin health while avoiding the adverse effects often associated with synthetic chemicals. Gentle enough for daily use and well-suited for sensitive skin, they reflect the increasing demand for clean, plant-based skincare products that support both dermal wellness and overall skin vitality.

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