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## Plant-Powered Beauty: Exploring Herbal-Based Creams In Skincare

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**ABSTRACT:** Herbal-based creams have gained significant attention in recent years as consumers increasingly seek natural, safe, and effective alternatives for skincare. This review explores the formulation, therapeutic potential, and scientific basis of herbal creams used in various dermatological applications. Emphasis is placed on the active phytochemicals derived from medicinal plants that offer anti-inflammatory, antioxidant, antimicrobial, anti-aging, and wound-healing properties. The article highlights key herbal ingredients commonly incorporated into skin creams—such as aloe vera, turmeric, neem, and calendula—and evaluates their clinical efficacy and mechanisms of action. Furthermore, the review discusses formulation strategies, regulatory considerations, and the growing market demand for plant-based skincare products. By integrating traditional knowledge with modern research, this paper provides a comprehensive overview of herbal creams, underlining their role as promising candidates for natural skincare solutions.

### KEYWORDS:

Cosmetic, cream, skin, herbal cream, topical application

### INTRODUCTION

"Cosmetics" comes from the Greek word "kosmetikos", which means to adorn. Since then, "cosmetics" has been used to describe any material intended to improve the look. Cosmetics word came from ancient Rome. <sup>[1]</sup> Cosmetics are used to make people seem more beautiful. Many cosmetic products contain herbal plants. <sup>[2]</sup> Demand for herbal cosmetics is due to the availability of novel ingredients, financial rewards for producing successful goods and maintaining quality standards. The products that are applied to the body are called cosmetics. Face creams are used as cosmetics for their softening and cleaning properties. Ayurveda is one of the most important medicinal systems that use herbal plant extracts and therapies for various ailments <sup>[3]</sup>. The process of creating herbal creams or goods by starting with a selection of recognised pharmaceutical components and then adding one or more natural ingredients to deliver particular advantages is known as herbal formulation. To treat infected skin, these semi-solid compositions are used topically. Antimicrobial creams that shield the skin from microbial illnesses are made with the formulation's active components. <sup>[4]</sup>

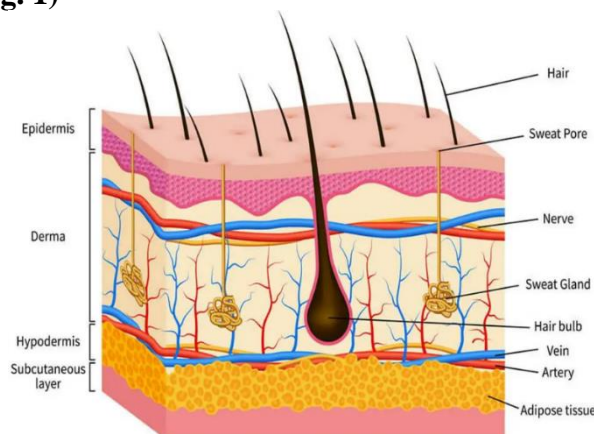
### TOPICAL DRUG DELIVERY

Drugs have been administered to the human body in a variety of ways throughout the past few decades to cure illnesses, including orally, sublingually, rectally, intravenously, topically, breathing, etc. despite the use of foams, sprays, medicated powders, solutions, and even medicated adhesives systems, topical delivery is the application of the drug-containing formulation to the skin to directly treat a cutaneous disorder or the cutaneous manifestations of a general disease (e.g., psoriasis). The goal is to contain the drug's pharmacological effect on the skin's surface or within the skin <sup>[5]</sup>.

## WHAT IS SKIN?

The skin, the largest organ in the body, is composed of lipids, water, protein, and minerals. Your skin helps regulate your body's temperature and serves as a barrier against dangerous microorganisms. Sensations like heat and cold are made possible by the nerves in your skin. The outermost layer of the body. <sup>[6]</sup>

## STRUCTURE OF SKIN: (Fig. 1)



**Figure 1:** Structure of skin

**Epidermis:** The stratified keratinized squamous epithelium that makes up the thick layer of skin known as the epidermis varies in thickness depending on the body part. Both the palms of the hands and the soles of the feet are rather thick. The deeper layers of the epidermis are removed by a medium fluid from the dermis that circulates like a lymphatic system and provides oxygen and nutrients, even though the epidermis lacks nerve endings and blood vessels.

**Dermis:** The dermis is elastic and firm. It is composed of connective tissue, with collagen fibres bonded to elastic fibres forming the matrix. Stretch marks are frequent in pregnancy and obesity and can be caused by elastic band fractures from excessive skin stretching. The decrease in collagen fibres' ability to hold water and provide rigidity to the skin leads to wrinkles. Important cells in the dermis include mast cells, fibroblasts, and macrophages. There are varying levels of adipose tissues and areolar tissues in their deeper layer.

**Subcutaneous gland:** This consists of cells called secretory epithelial cells that are found in the same tissues as hair follicles. They are found on the skin of every region of the body, except the palms and soles of the feet, and they rid the hair follicles of sebum, an oily substance. They are most frequently found on the skin of the groin, axillae, face, and scalp. The lips, eyelids, nipples, labia minora, and penile glands are examples of regions where the epithelial type changes. These locations have separate sebaceous glands in the hair follicle that release sebum straight onto the skin. <sup>[7]</sup>

## TYPES OF CREAMS:

- **Oil-in-water (O/W) cream:** an emulsion where the oil is dispersed throughout the aqueous phase as droplets. Tiny oil droplets dispersed in a continuous phase comprise O/W creams. Vanishing cream is one kind of O/W cream.
- **Water-in oil(W/O) cream:** an emulsion where the oil is distributed as droplets throughout the aqueous phase. O/W creams are made up of tiny oil droplets scattered across a continuous phase. One type of W/O cream is cold cream. <sup>[8]</sup>

## CLASSIFICATION OF CREAMS:

Various classifications of creams are represented in Figure 2

### 1. MAKEUP CREAM

The majority of these are o/w emulsion. The skin gets a smooth, moisturised finish from this cream-based product, which can be either brighter or stain-matte. It nourishes skin, gives it a dewy sheen, and stops sweating.

- **Vanishing creams:** They are called vanishing creams because, when applied on the skin, they seem to disappear. These compositions are based on stearic acid. Following the application,

the cream leaves a sticky, dry residue on the skin. This is the rationale behind their use, particularly in hotter regions where perspiration is frequent.

- **Foundation creams:** These creams serve as a foundation for cosmetic applications. It acts as a foundation that sticks to powdered makeup. They give the skin, which is neither too oily nor too dry, emollient properties and environmental protection. To conceal flaws, change skin tones, and create a uniform, even colour that mimics the complexion, multicoloured makeup is applied on the face. <sup>[9]</sup>

## 2. CLEANSING CREAMS

These creams are used for body cleansing, beauty, and personal cleanliness- all of which are essential for cosmetics. Oil, filth, and makeup can be removed from the face and neck with the help of cleansing lotions or creams.

## 3. WINTER CREAMS

Since these are w/o formulations, the combination will contain more oil than water. These lotions are mostly used to treat dry, cracked skin. Cold cream: we call it a moisturizing cream or moisturizer. Cold cream must have emollient qualities. The oil layer on the skin should be nonocclusive, and it should feel cold when used.

## 4. NIGHT CREAMS OR MASSAGE CREAMS

The main purpose of these creams is to nourish or treat dry skin. Generally speaking, night creams are applied to the skin and left there for several hours at night. Massage cream is a type of cream that massages the skin to act as an emollient.

## 5. SKIN PROTECTIVE CREAMS

The purpose of these smooth, thick-bodied creams is to provide the skin with a constant, invisible protective film barrier. It helps preserve the skin's protective barrier from things that irritate it, like occupational and contact dermatitis. Strengthens the skin's natural properties and maintains the balance between normal and combination skin types.



**Figure 2:** Classification of creams

## 6. HAND AND BODY CREAMS

The hands are among the first places to show signs of ageing. To get rid of any last traces of moisture, we frequently wash our hands several times during the day. Using lotion protects and softens the skin while maintaining its youthful appearance. Using hand creams that restore the oil in our fingers and palms makes sense because the skin on these areas requires it to be supple and to keep from drying out and breaking. Compared to other body parts, the hands receive the most use. <sup>[5]</sup>

## ADVANTAGES OF HERBAL FACE CREAM

- They are less irritating to the skin.
- They are attractive to look at.
- They are simple to apply.
- They spread quickly on the skin.
- They shouldn't cause dry skin, which occurs when soap or water is used to wash the skin. <sup>[10]</sup>

## HERBAL OVER COSMETICS:

Cosmetics are products applied to the skin to make it more beautiful and to purify. These products contain active ingredients that have benefits similar to those of drugs. A certain percentage of people still use herbal cosmetics to enhance the appearance of their skin. The fact that a herbal cosmetic is made purely of herbs and shrubs is the best reason for using one. The body does not experience any adverse effects from the natural content of the herbs, but these herbal remedies provide the body with additional beneficial minerals and nutrients. However, there is no more scientific proof that plants have a vast and complex arsenal of active ingredients (phytochemicals) that can actively repair, heal, and protect the skin in addition to calming or smoothing it. <sup>[11]</sup>

### Various common plants used in herbal cream preparation:

**Carrot:** It is used as an antioxidant and in wound healing.

**Cucumber:** Active Ingredient: Cucumber peel extract, Biological Name: *Cucumis sativus*, Family: Cucurbitaceae, Use: Extract from cucumber peels helps shield the skin from UV radiation and environmental pollution, while also combating free radicals that contribute to wrinkles and signs of ageing. <sup>[9]</sup>

**Fenugreek:** It is also known as methi, and has been used as a remedy for various ailments since ancient times. It contains several beneficial compounds, including folic acid, thiamine, vitamins A, C, K, B6, riboflavin, niacin, iron, magnesium, potassium, zinc, selenium, calcium, copper, and more. This nutritious superfood helps combat free radical damage, enhances natural skin radiance, and provides essential nutrients. It also helps to balance the pH levels of the skin. It can be used for various purposes, including promoting glowing skin, cleansing, anti-ageing, moisturizing, and reducing blemishes, dark circles, and acne. <sup>[12]</sup>

**Orange Peel Powder:** Orange peels are rich in flavonoids, phytochemicals, and antioxidants, as well as essential nutrients like calcium, magnesium, and vitamins A, B, and C. They help protect the skin from UV rays. <sup>[13]</sup>

**Aloe vera:** Fibroblasts, which produce collagen and elastin fibres, are stimulated by aloe vera, increasing the skin's suppleness and decreasing wrinkles. It has long been used to treat wounds and infections because of its antibacterial and antioxidant qualities. Aloe vera also helps to preserve the skin's natural moisture balance by blocking UVA and UVB rays. It boosts the immune system's reaction and helps avoid sunburn. <sup>[14]</sup>

**Butterfly pea flower:** Among the many antioxidants it contains are flavonoids, anthocyanins, and polyphenols. The general health and suppleness of your skin depend on an antioxidant. It enhances your skin's look and reduces fine wrinkles. Butterfly pea flowers reduced general irritation and itching. The blossom of the butterfly pea is used to revitalise the skin. Butterfly pea flowers' capacity to calm sensitive skin also reduces acne-related redness, dryness, and general irritation. When paired with additional nutrients that promote skin health, these nourishing qualities are further amplified. <sup>[15]</sup>

**Glycyrrhiza glabra Linn (Liquorice):** It has significant phytoconstituents like isoflavones, glabrin A and B, glycyrrhizin, and glycyrrhizic acid. It works well as a skin-whitening, anti-inflammatory, anti-bacterial, anti-fungal, anti-diabetic, and anti-oxidant agent. Flavonoids found in liquorice exhibit remarkably potent antioxidant properties. <sup>[16]</sup>

**Emblica officinalis:** It has vitamin C, which is thought to be crucial for reducing ageing-related free radicals. Free radicals are broken down by vitamin C, which scavenges them. <sup>[17]</sup>



## EVALUATION OF HERBAL CREAMS:

Herbal creams are evaluated for different parameters as shown in table 1.

**Table 1:** Evaluation of Herbal Face creams <sup>[18-26]</sup>

Parameters	Observations/results	References
Physical Appearance	White, characteristic odour, Semisolid, Smooth consistency	Badwaik et al., 2022
pH Measurement	Within the skin-friendly range of 5.5-6.5.	Chaudhari et al., 2025
Homogeneity	Formulations produce a uniform distribution of extracts in cream.	Bhide & Nitave 2016
Viscosity	Moderate viscosity is suitable for easy application and absorption	Jamathe, S. P. 2024
Spreadability	Easily spreadable with a non-greasy feel	Jamathe, S. P. 2024
Accelerated stability testing	Stable at room temperature and under accelerated conditions for 20 days	Mishra et al., 2014
Dye test	o/w or w/o type of cream	Mishra et al., 2014
Skin Irritation Test	No signs of irritation or allergic reaction in the patch test	Navindgikar et al., 2020
Washability	Easily washable	Navindgikar et al., 2020
Test for microbial growth	No growth of microbes observed within the zone of inhibition	Matangi et al., 2014
Antioxidant Activity	High antioxidant activity due to the presence of phenolic compounds in herbal extracts	Mishra et al., 2010
Targeted Benefits	Wound healing, acne and blemishes, skin ageing, hyperpigmentation, brightness	Sharma et al., 2025

## APPLICATIONS OF HERBAL CREAM <sup>[27-36]</sup>

Herbal creams are increasingly recognized in dermatology and cosmetology for their diverse benefits, stemming from multiple medicinal plant extracts. These products are commonly applied for both cosmetic and therapeutic purposes, as they are rich in antioxidants, anti-inflammatory agents, vital vitamins, and active enzymes that support skin health. Various application of herbal cream was given in Table 2.

## CONFLICT OF INTREST

Authors declare there is no conflict of interest in publishing this manuscript.

## CONCLUSION

Herbal creams combine conventional knowledge with contemporary formulation methods to provide a safe and efficient skincare solution. In contrast to artificial cosmetics, herbal creams utilise the healing qualities of plant-based ingredients like liquorice, fenugreek, aloe vera, and butterfly pea flower, which offer moisturising, anti-inflammatory, and antioxidant effects without endangering the skin. In addition to improving appearance, these formulas nourish and shield the skin from environmental aggressors. Herbal alternatives are becoming more and more popular as people become more conscious of the negative consequences of chemical cosmetics. Herbal creams are the perfect option for people looking for holistic and ecological skincare solutions because of their simplicity of use, suitability for a range of skin types, and low risk of negative side effects.

Table 2: Applications of herbal creams [27-36]

Application	Purpose	References
Moisturisation	Provides hydration and prevents skin dryness	Bhowmik et al., 2010
Anti-aging	Reduces the appearance of fine lines and wrinkles	Mukherjee et al., 2011
Anti-acne	Helps reduce acne, controls sebum, and soothes inflammation	Kaur et al., 2014
Skin brightening	Enhances complexion and reduces pigmentation	Kumar et al., 2013
Wound healing	Promotes tissue repair and soothes irritated skin	Bylka et al., 2013
Anti-inflammatory	Reduces redness, swelling, and inflammation	Arora et al., 2011
Antimicrobial protection	Protects against bacterial and fungal infections	Bhattacharjee et al., 2011
UV protection (mild)	Offers light protection against UV rays	Nichols & Katiyar, 2010
Soothing sensitive skin	Calms skin prone to allergies or irritation	Reynertson et al., 2015
Eczema and psoriasis relief	Helps alleviate symptoms of chronic skin conditions	Cheong et al., 2018

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