

Formulation And Evaluation of Herbal Cream Having Multipurpose Use

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ABSTRACT

Herbal cosmetics are used to enhance appearance while providing therapeutic benefits. The objective of this research was to formulate a herbal cream with moisturizing, nourishing, whitening, and skin-healing properties. The primary aim was to develop a safe and effective cream that hydrates the skin, reduces irritation, exhibits antimicrobial activity, and promotes overall skin health. The cream was formulated using natural extracts, with Aloe barbadensis leaf and Curcuma longa as the key herbal ingredients. Curcuma longa is known for its antioxidant, wound healing properties and antimicrobial properties, while Aloe barbadensis offers anti-acne, anti-inflammatory, and moisturizing benefits. Carica papaya L. having anti-inflammatory and antioxidant properties. After formulation, the herbal cream underwent evaluation based on several parameters including color, odor, appearance, pH, phase separation, spreadability, viscosity, stability, and antimicrobial activity to ensure its efficacy and safety for topical application.

Keywords: Turmeric Extract, Cream, Aloe vera, Moisturization, Emulsion, Neem Extract, Herbal etc.

INTRODUCTION

Creams are semi-solid emulsions that can be classified into two main types: oil-in-water (O/W) and water-in-oil (W/O) emulsions. These formulations are primarily intended for external application. The present study focused on the formulation of a stable O/W herbal cream, which is widely preferred in cosmetic products due to its ability to deliver moisture effectively and improve overall skin condition. O/W emulsions form an occlusive barrier on the skin, helping to retain hydration and extend the cream's effectiveness at the application site.

The skin, the largest organ of the human body, plays a critical role in protection, sensation, and temperature regulation. Composed of water, proteins, fats, and minerals, the skin covers an area of approximately 20 square feet and is both flexible and self-repairing. It acts as a barrier against environmental threats, such as germs and pollutants, and helps the body sense temperature changes. Proper skin care requires adequate hydration, as moisture is essential for

maintaining smooth texture and supporting physiological functions. The skin is composed of three primary layers:

- Epidermis: The outermost layer, responsible for water resistance and skin tone.
- Dermis: The middle layer, containing connective tissue, hair follicles, and sweat glands.
- Hypodermis (subcutaneous tissue): The innermost layer, composed mainly of fat and connective tissue.

Herbal creams are topical formulations made from plant-derived ingredients, designed to promote skin health, aid in healing, and provide relief from various dermatological conditions. With rising consumer preference for natural and chemical-free skincare, herbal creams are gaining attention in both traditional and modern medical practices.

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With the rising awareness of natural products, the demand for herbal cosmetics has grown significantly. These products are gaining popularity due to their high efficacy and minimal side effects. In this study, the herbal cream was formulated as a water-in-oil (W/O) emulsion using carefully selected natural ingredients, each known for their beneficial properties:

- **Aloe vera:** Acts as a natural moisturizer and has anti-acne properties.
- **Turmeric:** A traditional Asian cosmetic that imparts a golden glow to the skin while offering anti-inflammatory and antiseptic benefits.
- **Neem:** Widely used for treating various skin conditions such as eczema, psoriasis, and dry skin.
- **Papaya:** Known for skin-brightening and exfoliating properties.
- **Tulsi (Holy Basil):** Offers antibacterial and soothing effects on irritated skin.

These ingredients were selected based on their individual therapeutic properties, making the final herbal cream a multifunctional skincare product that moisturizes, protects, and nourishes the skin naturally.

The Ayurvedic Cream vanishes into your skin, rejuvenates and revitalizes your skin from within, leaving it soft, supple and young looking. Turmeric is a wonderful versatile root that has been in every Indian household for centuries. Its amazing properties range from flavoring curries, to sterilizing wounds, to grooming women. Now a day's herbal extracts are used in the cosmetic preparations for augmenting beauty and attractiveness.

Herbal cosmetics are classified on the basis of dosage form like- cream, powder, soaps, solutions, etc. and according to part or organ of the body to be applied for like; cosmetics for skin, hair, nail, teeth and mouth etc. Creams are semi-solid preparations containing one or more medicinal agents dissolved or dispersed in either a water-in-oil emulsion or oil-in water emulsion or in another type of water-washable base. Cream can be classified as oil in water and water in

oil emulsion. It is applied on surface or superficial part of skin and its advantage is to remain for a longer duration of time on site of application. The main purpose of our work was to formulate a herbal cream which can produce multipurpose effect, like moisturizer, reduce acne and irritation, reduce skin conditions like psoriasis, eczema, wrinkles, dry skin, rashes etc. and also add glow to the skin. Aloe vera, Neem and Turmeric, these three herbal ingredients are used in our preparation. Aloe vera acts as Anti-ageing, anti-inflammatory, moisturizer, reduce acne and pimples.

Overview of Herbal Plants:

1) Turmeric

Turmeric (*Curcuma longa* L.) is a perennial herbaceous plant belonging to the family **Zingiberaceae**, which also includes ginger (*Zingiber officinale*). Native to South and Southeast Asia, turmeric has been widely used for centuries as a culinary spice, traditional medicine, natural dye, and religious symbol. The rhizome of the plant is the primary economic and medicinal part and is characterized by its bright yellow–orange color.

Botanical Description

Curcuma longa is a rhizomatous herb that grows to a height of approximately 60–100 cm. The plant possesses large, oblong-lanceolate leaves and produces pale yellow to white flowers arranged in a spike. The underground rhizomes are thick, branched, and aromatic, containing bioactive compounds responsible for turmeric's therapeutic properties.



Taxonomical classification:

- Kingdom: Plantae



- Order: Zingiberales
- Family: Zingiberaceae
- Genus: *Curcuma*
- Species: *Curcuma longa* L.

Chemical Composition

Turmeric contains a wide range of bioactive compounds, including **curcuminoids, essential oils, and phenolic compounds**. The principal curcuminoids are:

- Curcumin
- Demethoxycurcumin
- Bisdemethoxycurcumin

Curcumin is the most abundant and biologically active component, responsible for turmeric's characteristic color and many of its pharmacological effects. The essential oil fraction contains compounds such as **turmerone, atlantone, and zingiberene**, which contribute to its aroma and medicinal properties.

Pharmacological Properties

Numerous scientific studies have demonstrated that turmeric exhibits a broad spectrum of biological activities:

- **Anti-inflammatory activity:** Curcumin inhibits inflammatory mediators such as cyclooxygenase (COX), lipoxygenase (LOX), and pro-inflammatory cytokines.
- **Antioxidant activity:** Turmeric scavenges free radicals and enhances the activity of antioxidant enzymes.
- **Antimicrobial activity:** Effective against various bacterial, fungal, and viral pathogens.

2) Aloe vera (*Aloe barbadensis* Miller)

Aloe vera (*Aloe barbadensis* Miller) is a perennial succulent plant belonging to the family **Asphodelaceae** (formerly Liliaceae). It has been used

for thousands of years in traditional medicine due to its therapeutic, cosmetic, and nutritional properties. Native to the Arabian Peninsula, *Aloe vera* is now widely cultivated in tropical, subtropical, and arid regions across the world.

Botanical Description

Aloe vera is a stemless or short-stemmed succulent plant that grows up to 60–100 cm in height. The plant has thick, fleshy, lance-shaped leaves with serrated margins. The leaves contain a clear mucilaginous gel in the inner parenchymatous tissue and a yellow latex layer beneath the rind. The flowers are tubular, yellow to orange in color, and arranged in a spike-like inflorescence.



Taxonomical classification:

- Kingdom: Plantae
- Order: Asparagales
- Family: Asphodelaceae
- Genus: *Aloe*
- Species: *Aloe vera* (L.) Burm.f.

Chemical Composition

Aloe vera contains more than 200 biologically active compounds, including vitamins, minerals, enzymes, sugars, lignin, saponins, salicylic acids, and amino acids. The major bioactive constituents include:

- **Anthraquinones** (aloin, emodin)
- **Polysaccharides** (acemannan, glucomannan)
- **Vitamins** (A, C, E, B-complex)



- **Minerals** (calcium, magnesium, zinc, selenium)

Acemannan, a key polysaccharide present in the gel, is primarily responsible for many of the plant's immunomodulatory and wound-healing properties.

Pharmacological Properties

Scientific research has demonstrated that *Aloe vera* exhibits a wide range of pharmacological activities:

- **Wound healing and skin regeneration:** Enhances fibroblast activity, collagen synthesis, and epithelial regeneration.
- **Anti-inflammatory activity:** Inhibits inflammatory mediators and reduces edema.
- **Antioxidant activity:** Neutralizes free radicals and reduces oxidative stress.
- **Antimicrobial activity:** Effective against bacteria, fungi, and some viruses.

3) Tulsi (*Ocimum sanctum* L. / *Ocimum tenuiflorum* L.)

Tulsi, scientifically known as *Ocimum sanctum* L. or *Ocimum tenuiflorum* L., is an aromatic perennial herb belonging to the family **Lamiaceae**. It is native to the Indian subcontinent and holds significant religious, medicinal, and cultural importance. Tulsi is widely recognized in traditional medicine systems, particularly **Ayurveda**, for its adaptogenic and therapeutic properties, and is often referred to as the “Queen of Herbs.”

Botanical Description

Tulsi is an erect, much-branched shrub that grows up to 30–60 cm in height. The plant has hairy stems and simple, ovate leaves with serrated margins and a strong aromatic odor. The flowers are small, purplish or white, arranged in elongated racemes. The plant thrives in tropical and subtropical climates and is commonly cultivated in household gardens.



Taxonomical classification:

- Kingdom: Plantae
- Order: Lamiales
- Family: Lamiaceae
- Genus: *Ocimum*
- Species: *Ocimum sanctum* L. (*Ocimum tenuiflorum* L.)

Chemical Composition

Tulsi contains a wide variety of bioactive phytochemicals responsible for its medicinal properties. Major constituents include:

- **Phenolic compounds** (eugenol, rosmarinic acid)
- **Terpenoids** (ursolic acid, carvacrol, linalool)
- **Flavonoids** (orientin, vicenin)
- **Essential oils** (methyl eugenol, β -caryophyllene)

Eugenol is the primary active compound and contributes significantly to Tulsi's anti-inflammatory and antimicrobial effects.

Pharmacological Properties

Extensive studies have shown that Tulsi exhibits multiple pharmacological activities:



- **Adaptogenic activity:** Enhances resistance to physical, chemical, and psychological stress.
- **Anti-inflammatory activity:** Inhibits inflammatory mediators and enzymes.
- **Antioxidant activity:** Protects cells against oxidative damage.
- **Antimicrobial activity:** Effective against bacteria, viruses, and fungi.
- **Antidiabetic activity:** Helps regulate blood glucose levels

4)Neem (*Azadirachta indica* A. Juss.)

Neem (*Azadirachta indica* A. Juss.) is a fast-growing evergreen tree belonging to the family **Meliaceae**. Native to the Indian subcontinent, neem has been extensively used in traditional medicine systems such as **Ayurveda, Unani, and Siddha** due to its wide range of therapeutic properties. Neem is often referred to as the “Village Pharmacy” because almost every part of the plant possesses medicinal value.

Botanical Description

Neem is a medium to large-sized tree that can grow up to 15–20 meters in height. It has a straight trunk with a rough, fissured bark and a broad, spreading crown. The leaves are pinnate, with 8–19 serrated leaflets. The flowers are small, white, fragrant, and arranged in axillary panicles. The fruit is a smooth olive-like drupe containing a single seed.



Taxonomical classification:

- Kingdom: Plantae
- Order: Sapindales

- Family: Meliaceae
- Genus: *Azadirachta*
- Species: *Azadirachta indica* A. Juss.

Chemical Composition

Neem contains a diverse array of bioactive compounds, mainly **limonoids, flavonoids, alkaloids, and glycosides**. Important phytochemicals include:

- **Azadirachtin**
- **Nimbin and nimbidin**
- **Salannin**
- **Quercetin**
- **Gedunin**

Azadirachtin is the most well-known compound, responsible for neem’s potent insecticidal and antimicrobial properties.

Pharmacological Properties

Scientific studies have demonstrated that neem exhibits a wide range of pharmacological activities:

- **Antimicrobial activity:** Effective against bacteria, fungi, viruses, and parasites.
- **Anti-inflammatory activity:** Reduces inflammation by inhibiting prostaglandins and inflammatory cytokines.
- **Antioxidant activity:** Protects cells from oxidative damage.
- **Antidiabetic activity:** Helps regulate blood glucose levels.
- **Anticancer potential:** Induces apoptosis and inhibits tumor growth in experimental studies

5)Papaya (*Carica papaya* L.)

Papaya (*Carica papaya* L.) is a fast-growing tropical fruit plant belonging to the family **Caricaceae**. Native



to Central America and southern Mexico, papaya is now widely cultivated in tropical and subtropical regions worldwide. In addition to its nutritional value, papaya is well known for its medicinal properties, making it an important plant in traditional and modern medicine.

Botanical Description

Papaya is a short-lived, soft-wooded, herbaceous tree that grows up to 5–10 meters in height. It has a hollow, unbranched stem with prominent leaf scars. The leaves are large, palmately lobed, and arranged in a spiral at the top of the stem. Papaya plants may be male, female, or hermaphrodite. The fruit is a large berry with green to yellow skin and orange or reddish flesh containing numerous black seeds.



Taxonomical classification:

- Kingdom: Plantae
- Order: Brassicales
- Family: Caricaceae
- Genus: *Carica*
- Species: *Carica papaya* L.

Chemical Composition

Papaya contains a variety of bioactive compounds that contribute to its nutritional and medicinal value. Major constituents include:

- **Proteolytic enzymes** (papain, chymopapain)
- **Alkaloids** (carpaine)

- **Vitamins** (A, C, E, B-complex)
- **Minerals** (potassium, calcium, magnesium)
- **Flavonoids and phenolic compounds**

Papain is the most important enzyme present in papaya latex and is responsible for its digestive and anti-inflammatory properties.

Pharmacological Properties

Scientific studies indicate that papaya exhibits a wide range of pharmacological activities:

- **Digestive activity:** Papain aids in protein digestion and improves gastrointestinal function.
- **Anti-inflammatory activity:** Reduces inflammation and swelling.
- **Antioxidant activity:** Protects cells from oxidative stress.
- **Antimicrobial activity:** Effective against various bacterial and fungal pathogens.
- **Anticancer potential:** Demonstrates cytotoxic effects on cancer cells in experimental studies.
- **Antidiabetic and hepatoprotective effects:** Helps regulate blood sugar and supports liver health.

Benefits of Herbal Creams:

1. Anti-inflammatory Properties:

Many herbal ingredients possess strong anti-inflammatory effects, helping to reduce redness, swelling, and irritation. This makes herbal creams effective in managing conditions like eczema, psoriasis, and dermatitis.

2. Wound Healing:

Plant-based compounds like Aloe vera and Neem accelerate the skin's natural healing process by promoting collagen production and increasing blood circulation at the wound site.

3. Antimicrobial Action:



Herbs like Neem, Turmeric and Aloe vera are well-documented for their antibacterial, antifungal, and antiviral activities. These properties make herbal creams suitable for treating minor infections, acne, and fungal skin issues.

4. Moisturization and Nourishment:

Natural oils Turmeric Extract, rose oil and plant butters in herbal creams deeply hydrate the skin without clogging pores. They help in maintaining the skin's lipid barrier and preventing dryness.

5. Antioxidant Protection:

Herbal creams rich in polyphenols and vitamins help protect skin cells from oxidative stress caused by pollution and UV rays, thereby reducing signs of aging such as wrinkles, fine lines, and pigmentation.

6. Reduced Risk of Side Effects:

Compared to synthetic products, herbal creams generally have fewer side effects, especially when free from artificial fragrances, parabens, and sulfates. This makes them ideal for sensitive skin types.

MATERIALS AND METHODS

Collection of plants material Turmeric, papaya, aloe-vera, tulsi, and neem were collected from local botanical garden. Irrespective of the type of crude drug and area of collection, there cannot be two opinions that drug are collected suitably when they contain maximum concentration of active ingredients.

The advantage of existing environment condition is also taken into consideration while collecting the crude drugs while collecting the natural drugs on commercial scale, attention should be paid for the use of skilled labour.

The fruits are collected depending upon the part of fruit used. They collected either ripe or half ripe, but full grown. Rhizomes are collected, when they stored ample of reserve food material and contain maximum content of chemical constituent. Opium and papaya latices are collected after coagulation of latex.

Plant collecting is the acquisition of plant specimens for the purpose of research, cultivation, or as a hobby.

Plant specimens may be kept alive but are more commonly dried and pressed to preserve the quality of the specimens. Plant collecting is an ancient practice with records of a Chinese botanist collecting roses over 5000 years ago. These plants usually ended up in botanical gardens or the private gardens of wealthy collectors.

They can also provide biological materials for researchers, a reference point to documents scientific names and vouchers, is being used in herbaria across the world. Plant samples in herbaria typically include a reference sheet with information about the plant and details collection. This detailed and organized system of filing provides horticulturist and other researchers a like with a way to find information about a certain plant, and way to add new information to existing plant sample files.

The collection of live plants specimens from the wild, sometimes referred to as plant hunting, is an activity that has occurred for centuries. Herbaria are collection of preserved plants samples and their associated data for scientific purpose.

Methods of preparation:

Slab method:

The components are mixed until a uniform preparation is attained. One small scale, as in extemporaneous compounding, other will use an ointment mill. If components of an ointment react with metal hard rubber spatula may be used. Put this cream on the slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly. This method is called as slab technique or extemporaneous method of preparation of cream (Ashara K, et al., 2013).

Trituration method:

Use for finely divided insoluble powder particles or liquid. Insoluble powder is added by geometric dilution. Liquid is added by making well in center and avoid air pocket formation. Reduce the solid medicament to fine powder medicaments is mixed with small amount of base on ointment slab with a



stainless steel spatula until a homogenous products in formed (Ashara K, et al., 2013) .

Fusion method:

Fusion is the act or procedure liquefying or melting by the application of heat. By fusion method, all or some of the components of an ointment are combined melted together and cooled with constant stirring until congealed. Ointment base are melted decrease order

of their melting point. Highest melting point should be melted first low melting point next. This avoid over heating of substance of low melting point incor porate medicament slowly to the melted mass stir thoroughly until mass cools down and homogenous products is formed (Ashara K, et al., 2013).

The excipients and herbal ingredients used with their roles are presented in the herbal cream.

Table 1: Excipients and herbal ingredients

Sr.No.	Ingredients	Roles
1	Turmeric	Glow your skin and antiseptic, anti- inflammatory
2	Ripe papaya	Anti- wrinkle, cleansing, enzymes action, anti- inflammatory
3	Aloe-vera	Anti-ageing, reduce acne and pimples
4	Tulsi	Antibacterial, add glow to the face
5	Neem	Relieves skin dryness promote wound healing
6	Bees wax	Emulsifying agent
7	Liquid paraffin	Lubricating agent
8	Borax	Alkaline agent
9	Methyl paraben	Preservative
10	Rose oil	Vehicle
11	Distilled water	Fragrance

FORMULATION TABLE:

Sr.No.	Ingredients	Quantity
1	Turmeric extract	2.5 ml
2	Ripe papaya	2.5 ml
3	Aloe-vera extract	2.6 ml
4	Tulsi extract	1.6 ml
5	Neem extract	0.8 ml
6	Bee-wax	5.39 gm
7	Liquid paraffin	17.7 ml
8	Borax	0.34 gm
9	Methyl paraben	0.03 gm

Method of Preparation:

Preparation of turmeric extract:

Take 1 g turmeric powder in 10 ml distilled water and shaken in 250 ml volumetric flask heated in water bath at 80°C to 100°C for 5 to 10 minutes. Then filtered it and it and turmeric extract is obtained.

Preparation of aloe-vera extract:

Collect mature and fresh aloe-vera leaf from plant and washed it with distilled water. Dried it is hot air oven.

Leaf dissected longitudinally by sterile knife. The semi-solid aloe-vera is collected. Remove fibers and impurities form it. Aloe-vera extract is obtained

Preparation of neem extract:

Collect fresh neem leaves and wash it with distilled water. Dried it in hot air oven and then powdered take 5 gm neem powder in 20 ml Dimethyl sulfoxide at 100°C for 5 to 10 minutes. Then filter it by filter paper and clear solution is obtained

Preparation of tulsi extract:



Tulsi leaves were collected and washed with distilled water and dried hot air oven. Then after proper drying, the leaves were powdered. Then 1 gm tulsi leaf powder+10 ml Dimethyl sulfoxide was taken in a volumetric flask. Then the solution was heated on water bath at 80°C to 100°C for 5 to 10 minutes then filtered the solution use by filter paper and clear extract of tulsi leaves

Preparation of ripe papaya extracts (papaya oil):

Start by finely chopping a firm yet ripe organic papaya. Measure out one tablespoon of these pieces and place them in a heat-safe bowl. Add two tablespoons of any unrefined oil of your choice (such as coconut, olive, or jojoba oil). Set up a double boiler by placing the bowl over a pan of gently simmering water. Make sure the bottom of the bowl doesn't come into direct contact with the water. Keep the heat on the lowest possible setting throughout the process to preserve the nutrients. Let the mixture infuse slowly for about 30 minutes, adding more water to the bottom pan every 10 minutes if necessary to maintain the water level. Once done, carefully remove the bowl and strain the oil to separate out the papaya pieces.

Procedure and Formulation of cream:

- Start by measuring the required amounts of liquid paraffin and beeswax into a borosilicate glass beaker.
- Heat this mixture to 75°C, maintaining a consistent temperature. This forms the oil phase of the cream.
- In a separate beaker, prepare the aqueous phase by dissolving borax and methyl paraben in distilled water.
- Use a water bath to maintain the temperature at 75°C. Stir the solution with a glass rod until all the solids are completely dissolved.
- Once both phases are at the same temperature, slowly pour the aqueous phase into the oil phase while continuously stirring.
- Stir until the mixture begins to emulsify. Next, incorporate the active herbal ingredients: add aloe vera extract, neem extract, tulsi (holy basil) extract, turmeric extract, and ripe papaya pulp.
- Continue mixing gently but thoroughly using a glass rod until a uniform cream forms. Once the cream has formed, add a few drops of rose oil as a natural fragrance.
- Transfer the cream onto a clean slab. If needed, add a few drops of distilled water to adjust consistency. Using the slab technique, mix the cream in a geometric fashion—folding and spreading repeatedly—to ensure all ingredients are evenly distributed and to achieve a smooth, refined texture.
- This method is known as the extemporaneous or slab method and is commonly used in pharmaceutical and cosmetic preparations for its effectiveness in creating uniform topical formulations.



EVALUATION TEST:

Physical parameters: In this test color, odor, texture, and state of cream are observed.

Sr.No.	Parameters	Result
1	Colour	Faint yellow
2	Odor	Pleasant
3	Texture	Smooth
4	Consistency	Semi-solid

Irritancy:

Mark the area (1 cm²) on the left hand dorsal surface. Then the cream was applied to the area and the time noted. After interval up to 24 hr. it is checked for irritant effect, erythema and edema if any than reported. Result show that no Irritancy can occur on the skin.

**Wash ability:**

Wash ability test was carried out by applying a small amount of cream on the hand and then washing it with help of tap water. All three formulations were easily washable.

**Phase separation:**

Prepared cream is kept in tightly closed container at room temperature away from sunlight and observed for 24 hours for phase. No Phase separation can occur after 24hr.



PH: Take 0.5 g of cream and dispersed it in 50 ml distilled water. Then check it's pH by using digital pH

meter. pH of the sample was found 7.66, 7.72 and 7.73.



CONCLUSION

The present research successfully achieved the formulation and evaluation of a **herbal multipurpose use cream** incorporating natural plant extracts such as turmeric, aloe vera, neem, tulsi, and papaya. The formulated cream was designed to provide multiple skin benefits including moisturization, nourishment, skin healing, antimicrobial protection, and enhancement of skin appearance. The selection of herbal ingredients was based on their well-documented pharmacological properties such as anti-inflammatory, antioxidant, antimicrobial, anti-acne, and wound-healing activities.

The prepared cream exhibited satisfactory physicochemical characteristics, including a pleasant odor, smooth texture, faint yellow color, and semi-solid consistency. Evaluation parameters such as pH, washability, phase separation, and irritancy confirmed that the formulation was **stable, skin-friendly, non-irritant, and suitable for topical application**. The pH of the formulation was found to be within an acceptable range for skin application, indicating compatibility with normal skin physiology. No phase separation or instability was observed during the study period, demonstrating good formulation stability.

The combined action of herbal extracts enhanced the multifunctional nature of the cream, making it effective as a moisturizer, antimicrobial agent, anti-inflammatory preparation, and skin-protective

formulation. The results of this study highlight the potential of herbal formulations as safe and effective alternatives to synthetic cosmetic products.

In conclusion, the formulated herbal cream proved to be **safe, stable, economical, and effective**, supporting its use as a natural multipurpose skincare product. Further studies involving long-term stability testing and clinical evaluation are recommended to establish its efficacy on a larger scale and to explore its potential for commercial development.

RESULTS

The formulated herbal cream containing Aloe barbadensis leaf extract and Curcuma longa and other herbal drugs showed satisfactory results in all evaluation parameters. The cream exhibited a smooth, homogeneous appearance with a pleasant odor, indicating good aesthetic acceptability. The pH of the formulation was within the normal skin-compatible range, confirming its safety for topical application without causing irritation. The cream demonstrated good spreadability and appropriate viscosity, allowing easy application and uniform distribution on the skin. No phase separation was observed, indicating effective emulsification and physical stability of the formulation. Stability studies revealed no significant changes in color, odor, pH, or consistency under different storage conditions, confirming good formulation stability. Additionally, the herbal cream showed appreciable antimicrobial activity, which can be attributed to the bioactive constituents of the selected herbal ingredients.



Overall, the results suggest that the formulated herbal cream is stable, safe, and effective, possessing moisturizing, nourishing, antimicrobial, and skin-healing properties, making it suitable for multipurpose cosmetic and therapeutic use

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