

DEVELOPMENT AND ASSESSMENT OF POLYHERBAL SOAP FORMULATION

Niranjan Babu Mudduluru^{*1}, Gowthami Godina²

^{1,2}Department of Pharmacognosy, Seven Hills College of Pharmacy, Tirupati, A.P., India

Corresponding Author

Dr. M. Niranjan Babu

Professor, Department of Pharmacognosy Seven Hills College of Pharmacy, Tirupati, A.P., India – 517561, Contact: 7702484513, Email: principal.cq@jntua.ac.in

ABSTRACT:

Aloe Vera and Turmeric have long been integral to skincare routines due to their medicinal benefits. Each plant Aloe Vera and Turmeric brings unique advantages to skincare. Aloe Vera is renowned for its soothing properties, providing hydration and nourishment while acting as a potent antioxidant. It effectively relieves skin irritation, heals cuts, and soothes burns. Turmeric, known for its powerful antioxidant and antibacterial properties, brightens the skin, giving it a natural glow. It also slows down the aging process and reduces breakouts. Both Turmeric and its derivatives are widely used in cosmetic formulations. Incorporating products enriched with Aloe Vera and Turmeric into your skincare regimen can help draw out impurities, soothe, and nourish the skin effectively.

KEYWORDS: Aloe vera, curcumin, turmeric, antioxidant, anti-inflammatory, polyphenol.

INTRODUCTION:

This study focuses on developing and assessing a herbal cream formulated with natural botanical extracts. The formulation process entailed carefully selecting and blending botanical ingredients known for their beneficial effects on skin health. These ingredients were integrated into a cream base[1]. The herbal cream underwent comprehensive evaluations to gauge its physical attributes such as texture, color, and fragrance, as well as its effectiveness in moisturizing and soothing the skin. Evaluation methods included sensory assessments by trained panelists, stability tests conducted under diverse environmental conditions, and scientific analyses to identify bioactive compounds present. The findings illustrate the viability of creating a potent herbal cream suitable for incorporation into natural skincare products [2].

PHARMACOLOGY:

1. ALOE VERA



Figure 1: Aloe Vera

Botanical Information [3]:

- Aloe vera, scientifically known as *Aloe barbadensis* Miller, belongs to the genus *Aloe* and is a succulent plant species.
- Originally native to the Arabian Peninsula, Aloe vera is now cultivated globally due to its medicinal and cosmetic benefits[3].
- This plant thrives in hot and dry climates, characterized by its thick, green leaves that store a clear, gel-like substance known for its various uses[4].



Figure 2: Aloe Vera Leaves

1. Structure:

- Aloe vera leaves are thick and fleshy, resembling a rosette or cluster of pointed, lanceolate-shaped leaves[5].
- Each leaf typically emerges from a central stem or base and varies in size, ranging from a few inches to several feet in length, influenced by the plant's age and health.

2. Color:

- The color of aloe vera leaves varies based on factors like age, growing conditions, and species.
- Healthy leaves generally appear green or gray-green, exhibiting a slightly translucent quality due to the presence of water-filled cells within the leaf tissue.

3. Texture:

- Aloe vera leaves possess a smooth, waxy texture on their surface, aiding in moisture retention and shielding the plant from environmental stress.
- Small, raised bumps or ridges may be present on the leaf surface, particularly near the edges or margins[6].

4. Growth Pattern:

- Aloe vera leaves grow in a spiral arrangement, forming a dense cluster or rosette.
- New leaves emerge from the center of the rosette and gradually unfold outward during growth, while older leaves may naturally wither and diminish over time.

Table 1: Active Constituents

Herbal drug	Active constituents
Barbadensis miller (aloe vera)	Polysaccharides ,glycoproteins, enzymes,vitamins, minerals, anthraquinones, salicyelic acid

Table 2: Taxonomy

Kingdom	Plantae
Order	Asparagales
Division	spermatophyte
Class	Monocotyledonaea
Genus	Aloe
Species	Barbadensis Mill

Nutritional Content:**1. Vitamins:**

- Aloe vera contains:
 - Vitamin C
 - Vitamin E
 - Vitamin A (in the form of beta-carotene)

2. Minerals:

- Essential minerals found in aloe vera include:
 - Calcium
 - Magnesium
 - Potassium
 - Sodium
 - Zinc
 - Copper
 - Chromium
 - Selenium
 - Manganese

3. Amino Acids:

- Aloe vera gel contains both essential and non-essential amino acids, such as glutamine, leucine, lysine, and phenylalanine [7].

4. Enzymes:

- Aloe vera gel includes enzymes like amylase, lipase, and bradykinase, which aid in digestion and possess anti-inflammatory properties [8].

5. Polysaccharides:

- Complex carbohydrates in aloe vera gel, such as acemannan, contribute to immune modulation and promote wound healing [9].

6. Fatty Acids:

- Trace amounts of fatty acids, including linoleic acid and oleic acid, are present in aloe vera gel [10].

7. Water:

- The primary component of aloe vera gel is water, providing hydration and soothing properties for the skin [11].

Medicinal Uses:

- Aloe vera has a rich history in traditional medicine, used for various purposes including [12]:
 - Treating skin conditions
 - Addressing digestive issues
 - Promoting wound healing
- Topically, aloe vera gel is applied to soothe sunburn, moisturize the skin, and aid in wound healing [13].
- Internally, aloe vera juice or extracts are occasionally consumed for their potential digestive benefits, though caution is advised due to possible laxative effects [14].

2. TURMERIC**Figure 3: Turmeric****RESULT AND DISCUSSION:**

SR.NO.	PARAMETERS	OBSERVATION
1.	Colour	Light brown
2.	Odour	Aromatic
3.	Shape	Circle
4.	pH	6.8
5.	Foam height	2.6cm
6.	Foam retention	3min 37sec
7.	Irritation	Non-irritant

CONCLUSION

The formulation of a polyherb soap blending aloe vera, turmeric extract, honey, vitamin E, and vitamin C creates a luxurious and nourishing skincare product. This soap provides

hydration, soothing relief, antibacterial properties, antioxidant benefits, and brightening effects. With regular use, it leaves the skin feeling refreshed, revitalized, and pampered.

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