

# Preparation and Assessment of a Herbal Multipurpose cream for Cosmetic Application

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DOI 10.51129/ujpah-2025-38-1(11)

Received - May 15, 2025

Revised - May 17, 2025

Accepted - May 20, 2025

Published - June 28, 2025

**Abstract-** Herbal medicine, often known as herbalism or botanical medicine, involves using herbs for therapeutic or medical purposes. An herb is a plant or plant component appreciated for its medicinal and fragrant properties. Herb plants generate and contain several chemical compounds that affect the body. Herbal cosmetics are beauty products with beneficial physiological effects, including skin healing, smoothing, attractiveness enhancement, and conditioning, due to their herbal constituents. The herbal multi-functional cream was studied with the goal of creating a new recipe. Formulations were tested for physicochemical properties such as appearance, emulsion type, color and odor stability, extrubility, pH, texture, application feel, particle contamination, and spreadability. Formulation C out performed other formulations in terms of product stability and effectiveness. Its usage may be responsible for such a high-performing stable formulation.

**Keywords:** Multipurpose cream, Herbal Formulation, Medicinal Herb.

## Introduction

Herbal cosmetics are sometimes known as botanical origin products. Plant-based personal care products are becoming increasingly popular in both local and international markets (Kaliya, 1998). In the 1990s, cosmetics manufacturers began using the term "cosmeceuticals" to describe over-the-counter skin care products with

therapeutic benefits. These products use plant-based active ingredients like Alfa-hydroxyl acids, retinoic acid, ascorbic acid, and coenzymes Q-10 (Ubiquinone) to increase skin elasticity, reduce wrinkles, and protect against UV radiation. The herbal cosmetics can be grouped in to following major categories (Pawar and Gaud, 2001). A Herbal cosmetics are beauty products with beneficial effects such as skin healing, smoothing, and enhancement, as well as conditioning, due to their herbal constituents.

- a. For enhancing the appearance of the facial skin.
- b. For hair growth and care.
- c. For skin care, especially in teenager (acne, pimples, sustaining).
- d. Shampoos, soap, powder and perfumery etc.
- e. Miscellaneous products.

In the future years, skin care products—particularly those used for professional procedures like chemical peels and facial implants that improve appearance—will account for the majority of cosmetic demand within the aforementioned categories (Kokate CK et al., 2003). The primary market need was for anti-wrinkle products. Therapy, sunscreens, analgesics, hair growth promotion, and micro-circulation enhancement. Creams are semi-solid emulsions that are used topically or mucosal membrane. Cream has relatively low yield value and pseudoplastic flow characteristics.

## **Material and Methods**

### **Formulation of Herbal Multi-purpose Cream**

**Preparation of Cream Base-** Every component was precisely weighed. After melting beeswax in a porcelain plate, liquid paraffin was poured. Almond oil was homogenized, and then applied to the melted foundation above. After dissolving borax in enough water, the mixture was heated. Drop by drop, the water was vigorously stirred into the greasy area. The necessary consistency was then achieved by allowing the molten bulk to cool (Ahmad et al., 2005).

**Preparation of Herbal Multipurpose Cream-** The following ingredients were accurately measured and homo-genized separately: aloe, papaya, amla, neem, tulsi, and turmeric. Papaya pulp was crushed and combined with aloe and powdered amla. Neem and tulsi extracts were added to the combination above. The resulting mass was continuously stirred as it was added to the base. After that, perfume and turmeric powder were added.

### **Evaluation tests for cream**

**Evaluation of In-Vitro Skin Permeation Determination of Amount of Drug Deposited in Skin-** This approach uses a diffusion cell set at  $32 \pm 1$  °C and conducts the in vitro drug release research in two phases. 10 ml of PBS (pH 6.5) is utilized as the receptor in the first step medium for ten hours, and in-vitro skin penetration is done. After 10 hours, the donor compartment is cleaned five times using warm receptor fluids (45°C). The second stage operates without a donor phase and employs 50% v/v ethanol as the receptor solution for a further 12 hours.

The carrier system that may have penetrated and deposited in the tissue will be disrupted by the ethanolic receptor's diffusion into the skin at this step, releasing both carrier-bound and free drug for collection in the receptor.

**Evaluation of Skin Sensitivities Open Epicutaneous Test-** Six to eight guinea pigs'

shaved flanks are covered with 0.025mm of various concentration across a 2 cm sq. area to assess the irritancy profile. Test locations are aesthetically. Assessed 24 hrs after the test solutions were applied on the erythema. The dosage at which 25% of animals do not respond (minimum irritating concentration) is identified. According to Previously, topical dose forms were made to be used topically to address local conditions. It may or may not be advantageous for there to be some penetration under the stratum corneum. Topical products, as opposed to trans-dermal formulations, are not meant to cause significant systemic circulation absorption. A topical medication that

1. reaches a concentration in the target tissue high enough to produce required pharmacological response;
2. exhibits a systemic toxicity level that is acceptable; and
3. leaves the skin in an inactive state.

**Draize Test-** The first predicted sensitization test approved by regulatory bodies was the Draize Sensitization Test (DT). Twenty guinea pigs had one flank shaved, and 0.05 on day 0, the anterior flank receives an injection of milliliters of a 0.1% test material solution in saline, paraffin oil, or polyethylene glycol. Through day 20, each animal receives a fresh injection of 0.1 ml of the solution every other day (challenge). Twenty untreated flanks are shaved, and 24 and 48 hours after injection, 0.05 of the test solution is visually assessed. According to Tortora et al. (1993), a favorable reaction is one that is more or more strongly erythematous than that of controls.

## **Results and Discussion**

In order to create a novel recipe for herbal multipurpose cream, the herbal multi-purpose cream was made and assessed. Before the herbs were chosen and gathered from various sources in order to formulate the herbal cream. Four formulas in all were created for this investigation. The comprehensive breakdown is displayed in Table No. 5. Several physicochemical criteria, such as

appearance, emulsion type, color and odor stability, extensibility, pH, texture, feel upon application, particle contamination, spreadability, etc., were assessed for the formulations. An ideal formulation was assessed in light of the intended physicochemical characteristics.

The following test settings were applied to the chosen formulation:

1. Appearance
2. Type of emulsion
3. Stability of color and odor
4. Extrubility
5. Ph
6. Texture
7. Feel upon application
8. Particulate contamination
9. Spreadabilit

**Table-1 Medicinal Herbs Used for the Beuty Therapy (Abdolhossein et al., 2003)**

Sr. no	Action	Medicinal herbs
01	Antiseptic	Amba haldi, neem, tulsi, Liquorice, Bavachi, citrus peel
02	Anti-inflammatory	Chandan, Khus, rose, Lodhra, Aloe, Raktchandan, Anantmul
03	Antiwrinkle	Manjishtha, Papaya, Aloe, Nagarmotha, Ginseng
04	Astringent	Arjun, Harada, Triphala, Manjishtha, Neem
05	Bleaching	Amba haldi, Kachur sugandhi, Aloe, Rakta chandan, Anantmul.
06	Cleansing	Aloe, Papaya, citruspeel, amla, Lemon.
07	Enzyme action	Aloe, Papaya, citruspeel, amla, Lemon.
08	Moisturizers	Aloe, Rose, Khus, Neem.
09	Nutritive	Liquorices, Ashvagandha, Ginseng, nagarmotha, tulsi.
10	To increase circulation	Kachur sugandhi, Nagarmotha, bavachi, Amba haldi.
11	Rejuvenating	Ginseng, papaya, Liquorices, Aloe, Raktachandan, Anantmul

**Table-2 Materials used in the preparation of Herbal Multipurpose Cream (Jerajani et al., 2004)**

Sr. no	Name of Ingredients	Role of Ingredients
01	Beeswax	Flavouring agent
02	Liquid paraffin	Preservative
03	Almond oil	Vehicle
04	Rose oil	Flavouring agent
05	Borax/methyl paraben	Preservative
06	Aloe	Antiwrinkle, Cleansing and Moisturizers
07	Papaya	Antiwrinkle, Cleansing and Enzyme action
08	Amla	Antioxidant property and cleansing
09	Neem	Antiseptic, astringent, and moisturizers
10	Tulsi	Antiseptic and nutritive
11	Turmeric	Colouring agent and antiseptic
12	Water	Vehicle

**Table-3 Formula for preparation Cream Base**

Sr. no	Name of ingredient	Quantity
01	Beeswax	10gm
02	Liquid paraffin	12gm
03	Almond oil	30ml
04	Rose oil	2ml
05	Borax/methyl paraben	01gm
06	Water	q.s upto 100gm

**Table-4 Overall formulation design for the Herbal Multipurpose Cream**

Sr. no	Ingredients	A	B	C
01	Aloe	25	30	30
02	Papaya	15	25	15
03	Amla	15	10	20
04	Neem	1.5	2.5	4.0
05	Tulsi	2.5	2.5	4.0
06	Turmeric	2.5	4.0	3.0
07	Acacia	5.0	3.0	3.0

**Table-5 Evaluation Parameters of all formulations**

Sr. no	Evaluation Parameters	A	B	C
01	Appearance	Pale Yellow	Pale Yellow	Orange Colour
02	Type of emulsion	O/W	O/W	O/W
03	Stability of color and odor (After 2 week)	Unstable	Unstable	Unstable
04	Extrubility	Good	Good	Good
05	PH	6.3	<b>6.5</b>	<b>6.4</b>
06	Texture	Gritty	Smooth	Smooth
07	Feel upon application	Cooling	Cooling	Cooling
08	Particulate contamination	No	No	No
09	Spreadability	Not good	good	good

The goal of the study was to create a herbal multipurpose cream, and the literature review revealed that demand for multipurpose creams is growing daily. Today, amla exhibits antioxidant properties, neem and tulsi have antiseptic, astringent, moisturizing, and nutritive properties, and turmeric has antiseptic and coloring properties. In the current work, an attempt has been made to create a herbal multipurpose cream that contains aloe, papaya, amla, neem, tulsi, and turmeric. A total of four formulations (A, B, and C) were made by varying the proportion of all ingredients of herbal origin, and all four formulations were O/W type of emulsion. possess high extensibility and a cooling feeling following application. There was no particle contamination in any of the formulations. The color of Formulation A was light yellow and after two weeks, it became unsteady. Its texture was grainy, its spreadability was poor, and its PH of A was determined to be 6.3. Formulation B was unstable after two weeks and had a pale yellow color. Its texture was smooth, its spreadability was adequate, and its PH of B was determined to be 6.5. After two weeks, formulation C, which had an orange hue, remained steady. The pH of C was determined to be 6.4, and it had a smooth texture with excellent spreadability.

### Conclusion

The successful development of a stable herbal multifunctional cream was determined. It was discovered that Formulation C worked best with in terms of its use and exhibiting improved product stability. Its usage may be the reason for

this formulation's exceptional performance and stability.

### Disclaimer Statement

Authors declare that no competing interest exists. The products used for this research are commonly used products in research. There is no conflict of interest between authors and producers of the product.

### Acknowledgement

We would like to express our sincere gratitude to **Mr. Mohit Pal, Assistant professor, JBIT College of Pharmacy, Dehradun** for their valuable guidance, insightful suggestions, and continuous support throughout this research. Special thanks are also extended to **JBIT college of pharmacy** for providing the necessary facilities and resources. We are also thankful to batchmates for their assistance and collaboration in conducting experiments and data analysis. Finally, we thank our families and friends for their patience and encouragement during the research process.

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