

Formulation and Evaluation of Polyherbal Cold Cream by using Turmeric, Aloe Vera and Vitamin E Capsule

Pratiksha P. Shinde, * Nida N. Mulla, Sanjay K. Bais
*Fabtech College of Pharmacy, Sangola
Tal-Sangola, Dist.-Solapur
Maharashtra -413307*

ABSTRACT

Products designed to improve and enhance a person's appearance are known as herbal cosmetics. The current study set out to formulate and evaluate plant extracts with the aim of hydrating and nourishing the skin through the use of a water-in-oil strategy. The quality of the prepared product was assessed using a variety of methods. The physical makeup of the cream did not change in any discernible way. Developing and evaluating herbal cold cream with turmeric and aloe vera for a soothing and brightening effect. The base ingredients for the cream were wax from bees, liquid paraffin oil, borax, water from distillation, and rose oil. This formulation can be evaluated using a variety of methods including patch test, physical property, dye test, accelerated stability studies, pH, viscosity, irritancy, spreadability, microbiological growth, thermal stability, homogeneity, acid value, and saponification value. Creating and assessing a natural cold cream was the aim of the current investigation. There are a few merits that herbal creams have over other kinds of creams.

Keywords: *Anti-inflammatory, Anti-aging, Hydrating, Anti-bacterial, Toner, Skin brightening, Moisturizer, Anti-oxidant, Herbal cream*

*Corresponding Author Email: - pratikshashinde2483@gmail.com

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INTRODUCTION

Herbal cosmetics are goods that are intended to enhance and enhance a person's look. Herbal cosmetics are typically preferred over synthetic ones since they are more effective and have fewer side effects. With the usage of these herbal cosmetics, skin becomes more hydrated and improved^[1] The Ayurvedic medical system was one of the approaches utilized to treat and manage various illnesses and disease states. Plant extracts from these systems are multifunctional; they have antibacterial, anti-inflammatory, emollient, and sometimes even anti-cancer properties. It is well known that curcumin has therapeutic benefits for a wide range of human ailments and that its anti-proliferative qualities have been proven in multiple forms of cancer. It is possible to apply cream, a topical treatment, topically to the face, hands, legs, and other parts of the body.^[2] This allows the cream to penetrate the various layers of the skin. In a cream, a pharmaceutical component or components are dissolved or disseminated in a washing medium such as water in oil or oil in water. Creams are semi-solid solutions. For cream, there are two categories: water in oil emulsion and oil in water. Applying it to the surface or superficial areas of the skin has the advantage of allowing it to remain there for a longer amount of time. In our recipe, we use four natural ingredients: turmeric, neem rice water, aloe vera, and so on. Aloe vera provides anti-inflammatory, anti-aging, hydrating and anti-acne qualities' is used to relieve skin irritation, inflammation and redness, reduce pigmentation and scarring. Rice water is used as a toner to brighten skin, while turmeric function as an antibacterial and provides the face a radiant appearance^[3]

Advantages of Herbal Cream

Gentle on the Skin

Natural ingredients aloe vera and vitamin E are often present in herbal cold creams and are soothing and mild on the skin. They are less likely to irritate skin types with sensitive skin, therefore they can be used^[4]

Moisturizing

A host of natural moisturizers found in many herbal cold creams help to deliver deep hydration to the skin. Ingredients like as vitamin E, beeswax, and aloe vera assist to keep skin supple and soft by sealing in moisture, especially in cold weather.

Nourishing

Herbal cold creams may contain rich sources of antioxidants, vitamins, and minerals, such as rice water, neem, aloe vera, and turmeric. These materials improve the health and radiance of the skin by feeding it^[5]

4.Healing Properties

Some herbal ingredients can soothe skin that is sensitive or swollen. For example, aloe vera is widely known for its anti-inflammatory properties, and turmeric has antimicrobial properties that can help prevent infections.

MATERIALS AND METHODS

Sr No.	Components	Role
1	Turmeric extract	Antibacterial, enhances facial radiance.
2	Aloe vera gel	Moisturizing, anti-aging, anti-inflammatory, and helps lessen pimples and acne.
3	Neem extract	Reduces redness, irritation, and dryness of the skin while promoting wound healing.
4	Vitamin E	Minimize dark circles and hyperpigmentation
5	Rice Water	Toner, which highlights the skin.

6	Beeswax	Emulsifying compound
7	Liquid paraffin	Lubricante
8	Borax	Alkaline-producing substance
9	Propyl paraben	Preserving agent
10	Filtered water	Vehicle
11	Rose oil	Scent

Table No.1: The functions of herbal components and excipients

Formulation of Cream

Place liquid paraffin and beeswax in a borosilicate glass beaker and heat it to 75⁰ C while keeping it there (Oil phase).

Using a water bath to maintain a temperature of 75⁰C, In another beaker, mix borax and propyl paraben in water.

Using a glass rod, stir the mixture until all of the solid particles have dissolve (Aqueous Phase).

After that, gradually stir in the heated oily phase while adding the heated aqueous phase.

After combining the two stages, immediately add all extract. Using a glass rod, stir until a creamy base is formed.

After the cream forms, add rose oil for scent. Once all the ingredients are fully combined and have a smooth texture, pour the mixture on a slab.

If needed add a few drops of distilled water in above cream.

The slab technique, also referred to as the extemporaneous method, is this method of creating cream^[6]

Sr No.	Components	A	B	C
1	Turmeric extract	0.9ml	0.47ml	0.56ml
2	Aloe vera gel	0.9ml	0.47ml	0.56ml
3	Neem Oil	0.3ml	0.09ml	0.22ml
4	Propyl paraben	0.01gm	0.018gm	0.016gm
5	Rice Water	3ml	2ml	1ml
6	Beeswax	1.81gm	1.65gm	1.78gm
7	Liquid paraffin	6ml	7.1ml	6.7ml
8	Borax	0.12gm	0.18gm	0.16gm
9	Vitamin E	1 capsule	1 capsule	1 capsule
10	Distilled water	Quantity required	Quantity required	Quantity required
11	Rose Water	Quantity required	Quantity required	Quantity required

Table No.2: Formulation Table

Assessment Test for Cold Cream

Analyzing the Form The color, smell, uniformity, and formulation state were the physical factors that were employed to assess the manufactured herbal creams further.

Colour

Through visual inspection, the cream's color was observed.

Odour

It was discovered that the smell of cream was a defining feature.

State

The state was visually inspected and found to be cream.

Uniformity

The formulation was assessed by hand-rubbing it on the hand. The cream has a smooth consistency^[7]

Sr No.	Parameter	A	B	C
1	Colour	Slightly Yellow	Slightly Yellow	Slightly Yellow
2	Smell	Nice	Nice	Nice
3	State	Semi-Solid	Semi-Solid	Semi-Solid
4	Uniformity	Smooth	Smooth	Smooth

Table No.3: Organoleptic characteristics

pH:

The pH of the made herbal cream was determined using a digital pH meter. Two hours were set aside for the cream solution in 100 ml of distilled water. Three computations of pH were made for the solution, and the average value was discovered^[8]

Sr No.	Formulation	pH
1	A	6.3
2	B	6.6
3	C	6.1

Table No.4: pH of Cream

Spreadability

By placing a sample between two slides and compressing it with a particular weight for a predefined period of time until it reached a uniform thickness, the spreadability of the cream formulation was evaluated. To determine how long it would take to separate the two slides, spreadability was employed. Reduced time intervals between two slides showed improved spreadability.

Sr No	Formulation	Time (sec)	Spreadability
1	A	7	2.14
2	B	5	3
3	C	6	2.5

Table No.5: Spreadability of Cream

Washing ability

The ease of washing the product off with water was assessed after it was applied to the skin.

Sr No.	Formulation	Washability
1	A	Easily Washable
2	B	Easily Washable
3	C	Easily Washable

Table No.6: Washability of Cream

Irritancy test

For Mark region of 1 cm 2 on the dorsal side of the left hand. At that time, cream was administered to the affected area. After a 24-hour break, the claimed irritating impact is checked^[9]

Sr No.	Formulation	Irritant effect
1	A	Non irritant
2	B	Non irritant
3	C	Non irritant

Table No.7: Irritancy table

Greasiness

The cream is applied to the skin in the form of a streak, and the degree of oiliness or greasiness is observed. We may conclude from the results that the formulations A, B, and C were all not greasy^[10]

Sr No.	Formulation	Greasiness
1	A	Non-greasy
2	B	Non-greasy
3	C	Non-greasy

Table No.8: Greasiness of Cream

RESULT

The above formulations A, B, and C were evaluated. The evaluation test results show that the first three formulations are safe to use, while formulation B is more stable, more spreadable, easily absorbed than the others.

The B formulation's parameters and observations are as follows:

Sr No.	Parameter	Observation
1	Colour	Slightly Yellow
2	Odour	Nice
3	State	Semi-Solid
4	Uniformity	Smooth
5	pH	6.6
6	Spreadability	3
7	Washing ability	Easily Washable
8	Irritancy	Non irritant
9	Greasiness	Non-greasy

Table No.9: Result

DISCUSSION

Using turmeric, aloe vera, rice water, vitamin E, and neem, we create three distinct formulations of polyherbal cold cream that are tested. The three formulations were compared and found to be safe for usage based on the evaluation test. The formulation B is more stable than the others, according to the evaluation test. The formulation and evaluation of the polyherbal cold cream incorporating turmeric, aloe vera, and vitamin E proved successful in creating a stable, effective skincare product. The synergistic combination of these natural ingredients offers promising benefits for skin health, suggesting its potential application in cosmetic formulations aimed at improving skin hydration and resilience against environmental stressors.

CONCLUSION

Utilizing Aloe vera gel, Neem, Rice Water, Vitamin E and Turmeric, the cream demonstrated a multifunctional impact with each of the herbal constituents exhibiting distinct and significant activities. It is safe to apply the formulation on skin, according to the result. It doesn't irritate the skin, is easily washable, and is non-greasy. Its consistency is smooth and its aroma is pleasing. The cold cream developed not only showcases enhanced moisturizing properties but also exhibits potential antioxidant, anti-inflammatory, and skin-soothing effects attributed to turmeric, aloe vera, and vitamin E. These ingredients are known for their individual therapeutic benefits, and combining them in a cold cream formulation offers a synergistic effect that can provide comprehensive skincare benefits.

CONFLICTS OF INTEREST

Nil.

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