



FORMULATION AND EVALUATION OF MULTIPURPOSE HERBAL CREAM BY OCIMUM SANCTUM

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Abstract

Herbal cosmetics are the preparation used to enhance the human appearance. The aim of the present research was to formulate the herbal cream for the purpose of moistening, nourishing, lighting, protecting and treatment of various diseases of the skin. Herbal cosmetics are products that are used to improve one's look. The goal of the research was to develop an herbal cream for moisturizing, nourishing, whitening, and treating various skin diseases. Curcuma longa (Turmeric powder), Carica papaya (Papaya), Aloe barbadensis (Aloe-vera leaves), Azadirachta indica (Neem leaves), and Ocimum sanctum (Tulsi leaves) are some of the basic drugs used to make the cream. The selection of components is based on the agents' various therapeutic characteristics. Various evaluation parameters are used to the cream.

Keywords: Herbal cream, Ocimum Sanctum, Tulsi, Neem, Aloe vera.

Introduction

Supplies vital nutrients to the skin. Globally, polyherbal cosmetic formulations are becoming more and more popular because of their increased perception of purity, protection, and efficacy. Many lotions on the water-in-oil (w/o) or oil-in-water (o/w) type semisolid emulsions that are intended for external application are referred to as creams. The cream falls under the category of an emulsion of oil and water. Its key advantage is that it lasts longer at the application site. It is applied to the skin's outermost or most superficial layer. A skin cream protects the skin from outside elements, such as the weather, and provides relaxing properties. There are numerous varieties of creams available, such as cleansing, cooling, hand, and Definition of herbal cosmetic cream: The word "cosmetic" comes from the Greek word "cosmetics," which means to embellish. Herbal cream is a mixture used to enhance one's appearance. An "herbal cosmetic" is a product that solely consists of herbal elements and is intended to provide certain cosmetic effects. The demand for herbal medicines is growing significantly because they have no negative side effects. These days, there is a steady increase in demand for herbal cosmetics. The public is becoming more aware of herbal formulations due to their excellent features and lack of side effects. It also includes night, massage, foundation, and vanishing creams. Our main objective is to produce an herbal

cream that will allow the market to recognize the brand. They don't include any of the dangerous artificial compounds that have been shown to be damaging to human skin. Herbal products contain a variety of plant parts and plant extracts.

Drug and excipients profile Tulsi:

Family: Lamiaceae

Biological Source: fresh and dried leaves of *Ocimum* species like *Ocimum sanctum* L. and *Ocimum basilicum* L., etc.

Biological Name: *Ocimum tenuiflorum*

Kingdom: Plantae

Part Used: Leaves

Medicinal Use of Tulsi:

1. Tulsi helps to cure fever.
2. It helps to cure skin problems like blackheads, premature aging, acne, etc.
3. Tulsi used to treat heart disease.
4. It prevents blackheads.
5. It prevents skin from acne.



Fig.1: Tulsi

Neem: Family: MELIACEAE

Biological Source: It consists of the leaves and other aerial parts of *Azadirachta indica*

Biological Name: *Azadirachta indica*

Part Used: Leaves

Medicinal Use of Neem:

1. Use to treat inflammation.
2. Use to cure skin problems like acne.
3. Used as an antiseptic.
4. It balances oil production.
5. It reduces post-acne scars.



Fig 2. Neem

Aloe-Vera:

Family: ASPHODELACEAE

Biological Source: Dried latex of leaves

Biological Name: Aloe barbadensis Miller Kingdom: Plantae

Part Used: Leaves

Medicinal Uses:

1. Used as anti-microbial.
2. Use to cure skin injuries.
3. Use as an anti-inflammatory.
4. Helps to soothe and sunburn.
5. Helps to moisturize the skin.
6. Lightens blemishes on the skin.



Fig 3. Aloe vera

Turmeric:

Family: Zingiberaceae

Biological Source: Turmeric is a product of *Curcuma longa*, a rhizomatous herbaceous perennial plant belonging to the ginger family Zingiberaceae, which is native to tropical South Asia.

Biological Name: *Curcuma longa*

Kingdom: *Plantae*

Medicinal Use:

1. Use to treat disorders of the skin.
2. Use to treat respiratory tract infection.
3. Use to treat problems in the digestive system.
4. Use as an antiseptic.
5. It helps to heal acne.
6. Prevents premature aging.
7. Lightens hyperpigmentation.



Fig 4. Turmeric

Rose Oil:

Family: Rosaceae

Biological Source: The petals of different *Rosa* species especially *Rosa centifolia* L. and *Rosa damascena* Mill.

Biological Name: *Rosa centifolia* L

Kingdom: *Plantae*

Uses:

1. It is used as an essence.
2. It is used to nourish skin.



Fig 5. Rose oil

Methylparaben:

Chemical formula: C₈H₈O₃

Molar mass: 152.15 g/mol

Appearance: Colourless crystals or white crystalline powder

Uses:

1. It avoids bacterial and fungal growth.
2. It is used as a preservative.

Borax:

Chemical formula: Na₂ [B₄O₅ (OH)₄] · 8H₂O

Molecular Mass: 381.37 g/mol

IUPAC Name: sodium tetraborate decahydrate

Uses:

1. Use as a moisturizer.
2. Use as a buffering agent.
3. It is used to prevent bacterial growth.

Liquid paraffin

Chemical Formula: C_nH_{2n+2}

Molecular Mass: 0.00

IUPAC Name: 2-(3, 4, 5-tri hydroxyphenyl) chromenylium-3, 5, 7-triol; chloride

Sr.no.	Ingredient	Uses
1	Tulsi	Antibacterial, adds glow to the face
2	Aloe-vera	Anti-aging reduces acne and pimples
3	Turmeric	Glow your skin with an antiseptic, anti-inflammatory
4	Neem	Relieves skin dryness and promotes wound healing
5	Beeswax	Emulsifying agent
6	Borax	Alkaline agent
7	Liquid paraffin	Lubricating agent
8	Methylparaben	Preservative
9	Rose oil	Fragrance
10	Distilled water	Vehicle

Uses:

1. Use as laxative.
2. Use as a lubricant.

Bee Wax:

Chemical Formula: C₁₅H₃₁COOC₃₀H₆₁.

Molecular Mass: 677.2215

Scientific Name: Cera Alba

Uses:

Use as an emulsifier.

Material and equipment**Extraction process:**

To make turmeric extract, mix 10 grams of powdered turmeric with 100 milliliters of distilled water at a temperature between 80 and 90 degrees Celsius. When the powder dissolves, take it for four days. The decoction method yields the turmeric extraction.

Extraction of turmeric:



The extraction process of Aloe – Vera:

10 gm of aloe vera powder and 10 ml of ethanol are combined to make aloe vera extract. For four to five days. The maceration technique provides the aloe vera extraction.



Preparation of Neem extract:

Gather the powdered neem. Mix 100ml of ethanol with 10gm of neem powder. But it lasts for four to five days. The maceration procedure gathers the neem extracts.



Preparation of Tulsi extract:

After gathering, tulsi leaves were cleaned in distilled water and dried in a hot air oven. After the leaves had dried properly, they were pulverized. Next, 100 milliliters of ethanol and 10 grams of Tulsi leaf powder were added to a volumetric flask. After that, the mixture was cooked for five to ten minutes at 80°C to 100°C in a water bath. After that, filter paper and Tulsi leaf extract were put to the solution.

**Formulation of cream:**

Put two milliliters of liquid paraffin and two grams of beeswax in an oil phase borosilicate glass breaker and heat them to 75 °C. Next, in a different beaker, dissolve 1 gram of borax and 2 gram of methylparaben in distilled water while keeping the temperature at 75°C using a water bath. Using a glass rod, agitate the solution's aqueous phase until all of the solid particles have dissolved. Slowly pour the heated aqueous phase into the heated oily phase while stirring. Following the combination of the two parts. Next, incorporate the extracts of aloe vera, neem, tulsi, and turmeric.

Evaluation parameter:**1. Physical Parameters:**

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

2. Irritancy:

To start, we measured one centimeter squared for a tiny area on the left hand's back. After applying some cream there, we noted the time. After up to a day, we looked to see if there was any swelling or redness. If so, we reported it to someone.

3. Wash Ability:**4. Phase Separation:**

We experimented with how simple it is to use tap water to remove cream from our hands. It was simple to wash off the cream.

We put some cream in a container and closed it tight. Then we put it in a safe place where it won't get too hot from the sun. We wait for a whole day and watch what happens to it.

6. pH determination:

Combine a small amount of cream with a large amount of water. Next, use a pH indicator to determine how basic or acidic it is.

7. Spreadability test:

This measures how simple it is to apply a substance on a surface. We conducted this test for SIX different variables, denoted as F1, F2, F3, F4, F5, and F6. A variable is said to have good spreadability if it spreads readily and rapidly. Our test results showed that F5 was the most spreadable.

Result and Discussion

1. Physical Parameters

Sr.no	parameter	Testing result
1	Colour	Faint yellowish green
2	Odor	Pleasant
3	Texture	Smooth
4	State	Semi-solid

Table1: Physical parameters of cream

2. Irritancy:

Sr.No	Formulation	Irritant Effect	Erythema	Edema
1	Testing Result	Nil	Nil	Nil

Table 2: Irritancy test of Cream

3. Washability test

Sr.no	Formulation	Wash ability
1	Testing result	Wash washable

4. Phase separation test

Sr.no	Formulation	Phase separation
1	Testing result	No phase separation

Table 4: Phase separation of cream

5. Spreadability Test

Sr.no	Formulation	Time (in sec)	Spreadability (gmc\sec)
1	Testing result	5	3

Table 5. Spreadability

6. Stability study

Sr.no	F1	F2	F3	F4	F5	F6
Color	Faint yellowish green	Faint yellowish green	Faint yellowish green	Faint yellowish green	Faint yellowish green	Faint yellowish green
Odor	Pleasant	Pleasant	Pleasant	Pleasant	Pleasant	Pleasant
Texture	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth
State	Semi-solid	Semi-solid	Semi-solid	Semi-solid	Semi-solid	Semi-solid
Irritant effect	Nil	Nil	Nil	Nil	Nil	Nil
Erythema	Nil	Nil	Nil	Nil	Nil	Nil
Edema	Nil	Nil	Nil	Nil	Nil	Nil
Wash ability	No washable	No washable	Washable	Washable	Washable	Washable
Phase separation	Phase separation	Phase separation	Phase separation	Phase separation	No phase separation	No phase separation
Spreadability Time (sec)	7	5	6	6	5	4
PH. determination	7	7.98	7.65	7.90	7.98	7.68

Table 6: Stability study of Herbal cream

Result:

The scientists used a variety of plants to create a unique cream. Like neem, turmeric, aloe vera, and Tulsi. In order to assess the cream's quality, we looked at its thickness, feel, and potential for causing irritation. We also examine the cream's thickness, ease of washing, and potential for irritation. We examine the cream's physical attributes.

Discussion:

We created a unique cream by combining various herbs. (Tulsi, turmeric, neem, and aloe vera). It doesn't feel oily and was simple to remove. It has a decent consistency and spreads easily. It doesn't annoy or divide.

Conclusion:

The cream was created utilizing a unique technique and then put to the test to ensure its quality. The texture, acidity, spreadability, ease of washing off, skin-friendliness, thickness, and cohesiveness of the cream's constituent ingredients were all considered. The cream worked out beautifully. This is about a cream that is created with organic components like tulsi, aloe vera, neem, and turmeric. The cream is safe to use and these ingredients offer various skin-benefiting properties. After testing, it was discovered that the cream had a good consistency and was stable at room temperature. Compared to two other versions of the same cream, it is superior. The cream is reasonably priced and made with basic ingredients and techniques. There are fewer negative effects and better skin care benefits when using natural ingredients. To find out how the cream affects the skin, more research will be conducted. The herbal cream resembles a blend of water and oil. It is created with organic ingredients such as neem, turmeric, aloe vera, and Tulsi, all of which have unique skin-beneficial properties

Future scope:

The Indian herbal cream market appears to have a bright future ahead of it, with potential in department stores, drug stores, pharmacies, health and beauty shops, supermarkets, hypermarkets, and E-commerce marketplaces. The market is anticipated to grow during the forecast period due to an increase in demand for skin care products brought on by an increase in skin-related problems like dry, frizzy, and dull skin. There is a significant market demand for herbal creams.

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