

“Introduction of Herbal Moisturizing Cream, It’s Formulation and Evaluation”

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Abstract

Herbal cosmetics are a type of formulation that is primarily used to protect and nurture a person's look. A herbal cosmetic is a preparation meant to enhance one's own beauty. Moisturizing cream is a semi-solid product for enhancing skin tone. Compared to synthetic creams, herbal creams provide severe benefits. Synthetic creams also have severe undesirable side effects, including irritation and allergic reactions. These adverse effects are not present in herbal creams. The herbal extract containing moisturizing cream gives soothing and lubricating effect due to slow evaporation of water from the skin. The majority of currently available creams provide more fairness to the face and are made from medications of synthetic origin, but they also have several undesirable side effects, including irritation and allergic reactions. These adverse effects are not present in herbal creams, which nourish the skin without them

The main aim of research work is to prepare the moisturizing creams using different herbs such as jujube fruit, calendula leaves, lavender leaves, aloe-vera, holy basil leaves, etc. The formulated moisturizing creams are evaluated by the various parameters like pH, viscosity, washability, phase separation, spreadability, homogeneity, physical appearance, irritancy, and compatibility test.

Keywords: Herbal moisturizing cream, Hydration, Softening, Herbs, Evaluation.

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I. INTRODUCTION

The global cosmetics Greek word "kosmetikos," which meaning "skilled in adornment" or "pertaining to dressing," is the source of the English word "cosmetics." Cosmetics are materials or items that are used to improve or change the way the face, body, or scent appear. As per the D & C Act 1940 and its regulations in 1945, cosmetics refer to any item that can be applied, rubbed, poured, sprinkled, sprayed, or introduced into any part of the human body for the purpose of cleaning, beautifying, enhancing attractiveness, or changing appearance

Moisturizing cream is semi-solid dosage form and is an emulsion of water in oil (w/o) type. Moisturizing cream is a cosmetics preparation used for moisturizing and lubricating the skin. Moisturizer is a liquid that applied on the skin softening of the skin, especially in nature dry skin. Moisturizing cream increase the skin's water content by reducing evaporation.

Herbal moisturizing cream is formulated of various herbs such as Jujube fruit, Calendula leaves, Lavender leaves, Aloe-vera, Holy basil etc. So they have not any undesirable effects on the skin surface. Many people choose them over synthetic products because of their natural origins and lower side effects. Natural or botanical cosmetics, sometimes known as herbal cosmetics, are cosmetics made mainly of plant-based materials. These ingredients could include extracts, essential oils, and other materials made from the fruits, seeds, roots, bark, flowers, and leaves of various plants.

Many countries require that the ingredient composition of skin care products is listed on the product, using the International Nomenclature of Cosmetic Ingredients (INCI) conventions. Ingredients are listed in the order of their percentage within the product; natural ingredients are listed in Latin and synthetic ingredients are listed by technical name. "The U.S. government has documented more than 10,500 ingredients in cosmetic products, but only a small percentage of those chemicals have been tested for safety. Of those that have been tested, some have been identified as carcinogens (causes cancer), teratogens (causes birth defects), and reproductive toxicants (damages the ability to reproduce)

The objective of this research work was to develop the moisturizing cream which does not cause any side effects or adverse reactions. The cream also acts as a skin tone in day-to-day life by giving even skin tone. It also possesses vitamin E which provided required nourishment to the skin.

ADVATAGES:-

- It helps to fight wrinkles.
- Moisturizing reduces the chances of the skin problems.
- Moisturizing helps your skin stay young.
- Non-irritating when applied to the skin.
- Easily water washable.
- Easy to spread on the skin's surface.
- Less greasy compared to other ointments.

DISADVANTAGES:-

- Less stable as compared to ointment.
- They are difficult to hide taste and odour.
- Most of herbal drugs are not easily available.



Figure: 01

INGREDIENTS (MATERIALS) USED IN FORMULATION:-

In formulation of herbal moisturizing cream, lot soft ingredients are used.

1) JUJUBE FRUIT:-

Biological Source:- Biological source is *Ziziphus Jujuba Mill.*

Family:-Rhamnaceae.

Chemical Constituents:-

It contains Vitamin C, phenolics, flavonoids, tri-terpenic acids, and polysaccharides.

Uses:-

- It is used to increase moisture content.
- It is used as anti-oxidant, anti-inflammatory agent.
- It is used for soothing of the skin.
- It helps in skin brightening.
- It is used as anti-aging.



Figure:02

2) Calendula:-

Calendula contains fatty acids that help to moisturize and hydrate skin.

Calendula increases the collagen production ,collagen help to improve skin hydration.

Biological source:-Calendula derives from *Marigold Calendula Offcinalis Linn.*

Family:-Asteraceae.

Chemical Constituents:-

It contains tri-terpenoids, glycosides, volatile oil, carotenoids, flavonoids, aminoacids, and vitamin C.

Uses:-

- It is used as anti-oxidants and anti-inflammatory agent.
- It gives a whiten skin.
- It also helps banish dark spots, redness, and acne scars.
- It is used for softening of the skin.
- It is used as anti-bacterial agent.
- It is used to hydrate the skin surface.



Figure:03

3) Lavender:-

Lavender is a natural skin care ingredient that can be used to improve skin's moisture content.

Biological Source:-It derives from *Lavender Angustifolia*.

Family:-Lamiaceae.

Chemical Constituents:-It contains linalylacetate, linalool, eucalyptol, and vitamins B, C and E.

Uses:-

- It is used as anti-bacterial and anti-inflammatory agent.
- It is used in wound healing.
- It is used for softening of skin surface.
- It reduces wrinkles.
- It is used for moisturizing the skin.



Figure:04

4) Aloe-vera:-

It stimulates fibroblast which produces the collagen and collagen helps to skin hydration. Mono polysaccharides help in binding moisture into the skin.

Biological Source:-

Aloe is obtained from the dried juice of leaves of *Aloe Barbadensis Miller*.

Family:-Liliaceae.

Chemical Constituents:-

It contains anthracene glycosides, cinnamic acid, coumaric acid, and vitamins A, B and C.

Uses:-

- It is used to treat skin problems.
- It is used as anti-bacterial and anti-inflammatory agent.
- It is used for hydrating the skin.
- It is used for softening of the skin.



Figure:05

5) Holy Basil:-

Its moisturizing and hydrating properties help to keep the skin looking and feelings of tand nourished.

Biological Source:-

It derives from leaves of *Ocimum Sanctum*.

Family:-Labiatae.

Chemical Constituents:-

It contains rosmarinicacid, eugenol,sinapicacid,and vitamin C.

Uses:-

- It is used as anti-bacterial, anti-inflammatory and anti-septic agent.
- It helps to increases hydration level.
- It helps to nourished the skin.
- It is used for softening of the skin.



Figure:06

6) Bees wax:-



Figure:07

- It is used as a stabilizing agent.
- It contains strong healing, anti-septic anti-inflammatory properties.
- It repairs damage, promotes the skin's regeneration and creates hydration.

7) Borax:-



Figure:08

- It is used as emulsifier.
- It is added to remove bacteria, and dead skin cells.

8) Methyl Paraben:-



Figure:09

- It is used as preservative.
- They prevent harmful mold, bacteria, and fungi from infecting your products.

9) Liquid Paraffin:-



Figure: 10

- It is used as a moisturizing agent to prevent dry, rough scaly, itchy skin and minor skin irritations.

10) Coconut Oil:-



Figure: 11

- It is used as emollients.
- It is helping heal wounds.
- It is reducing inflammatory.

11) Vitamin E:-



Figure:12

- It is used as anti-oxidant.
- It can lighten skin.

12) Jasmine Oil:-



Figure:13

- It is used for fragrance.
- It gives moisturizing effect.

13) Triethanolamine:-



Figure:14

- It has anti-inflammatory property.
- It is used to balance pH of formulation.
- It is used as thickening agent.

❖ Formulation Table for Herbal Moisturizing cream(for100gm):-

S.No.	Ingredients	F1	F2	F3
1.	Jujube extract	2	2.45	2
2.	Calendula extract	2.9	2	2
3.	Lavender extract	1	2	1
4.	Aloe-vera extract	7	8	7.5
5.	Basil extract	1	1	1
6.	Beeswax	15	12	15
7.	Liquid paraffin	40	35	32
8.	Borax	0.80	0.75	1
9.	Methyl paraben	0.1	0.1	0.1
10.	Coconut oil	1	1.5	1.2
11.	Triethanolamine	0.2	0.2	0.2

12.	Jasmine oil	4	8	11
13.	Vitamin E	1	1	1
14.	Water	Q.S.	Q.S.	Q.S.

Table:01

Method of Preparation of Herbal Moisturizing Cream:-

Preparation of Extract:-

- For extraction, maceration extraction method was used.
- Sufficient amounts of herbs was taken individually.
- Herbs was converted into paste form.
- Paste was placed in individual beaker and added 50ml water individually.
- Beakers allow to stand at room temperature for 24hrs.
- After 24hrs the preparation are filtered individually.



Figure:15



Figure: 16

Preparation of Final Moisturizing Cream:-

Oil Phase:-

Heat liquid paraffin and beeswax in a beaker at 75°C.

Water Phase:-

In another beaker, dissolve borax, methylparaben, in distilled water and heat this beaker to 75°C to dissolve borax and methyl paraben and get a clear solution.

The slowly add this aq.Phase to heated oily phase.

Add a measure amount of jujube, calendula, lavender, aloevera and basil extracts and stir vigorously until it form a smooth cream and add vitamin E, coconut oil, jasmine oil as fragrance and triethanolamine as a neutralizing agent.

After this cream will packed and store it.



Figure:17(Batch:01)



Figure:18(Batch:02)

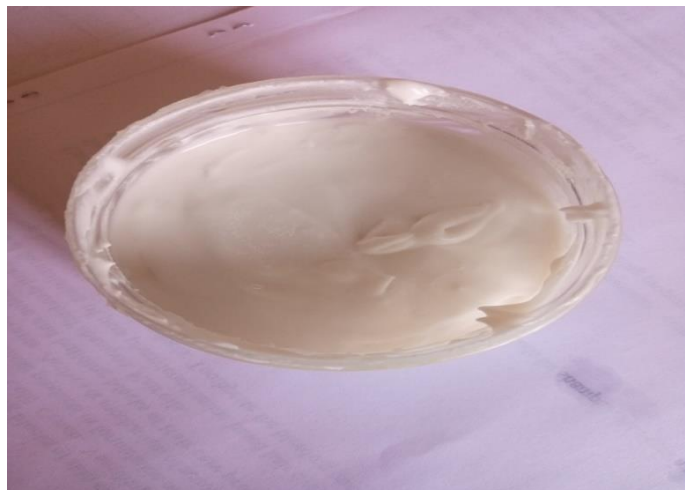


Figure:19(Batch:03)

Evaluation of Moisturizing Cream:-

➤ **pH :-**

0.5g cream was taken and dispersed in 50ml distilled water and then pH was measured by using Digital pH meter.

➤ **Phase Separation:-**

This test is basically checked in 24hr to 30hr. For this test cream put in a closed container at a temperature 30-80°C. Keep this formulation away from light.

➤ **Spreadability Test:-**

Take two slides to slip off from the cream, placed in between the slides, under certain load. Lesser the time taken for separation of two slides, better the spreadability.

$$S = M.L/T$$

Where, M=Weight tied to upper slide T = Time taken to separate the slides

L=Length of glass slide

➤ **Washability:-**

The cream applied on skin was easily removed by washing with tap water.

➤ **Irritancy Test:-**

The formulated cream shows no redness, oedema, irritation and inflammation during studies. The formulated cream is safe to use.

➤ **Viscosity:-**

Viscosity of cream was determined by Brook field viscometer at a temperature 25°C using spindle no. 64 at 20 rpm.

➤ **Physical evaluation:-**

This mostly serves to evaluate the cream’s color and odour

Evaluation Table:-

S.No.	Test	F1	F2	F3
1.	pH	6.94	7	7
2.	Phase separation	No	No	No
3.	Spreadability	22.5g.cm/s	18.75g.cm/s	28.12g.cm/s
4.	Washability	Good	Good	Good
5.	Irritancy	No	No	No
6.	Viscosity	28575cp	35480cp	38620cp
7.	Colour	Philadeiphia Cream	Linen White	AtriumWhite
8.	Odour	Aromatic	Aromatic	Aromatic

Table: 02

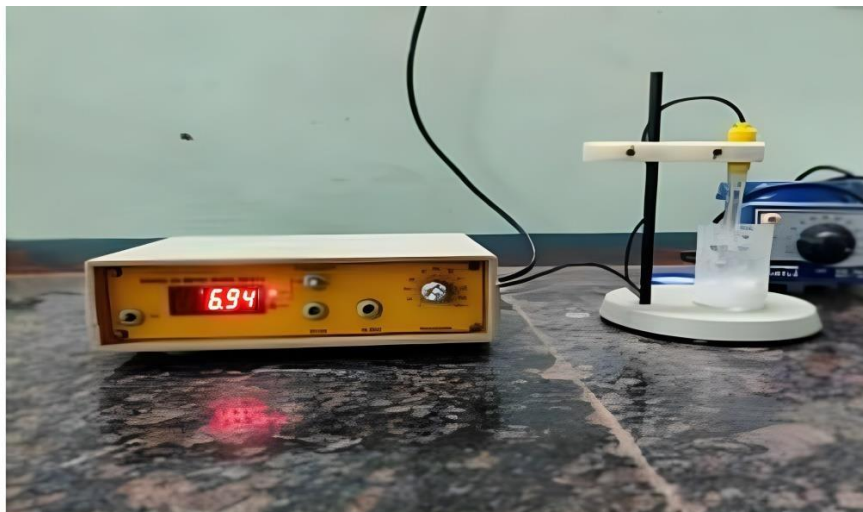


Figure: 20(pH Test Phase1)

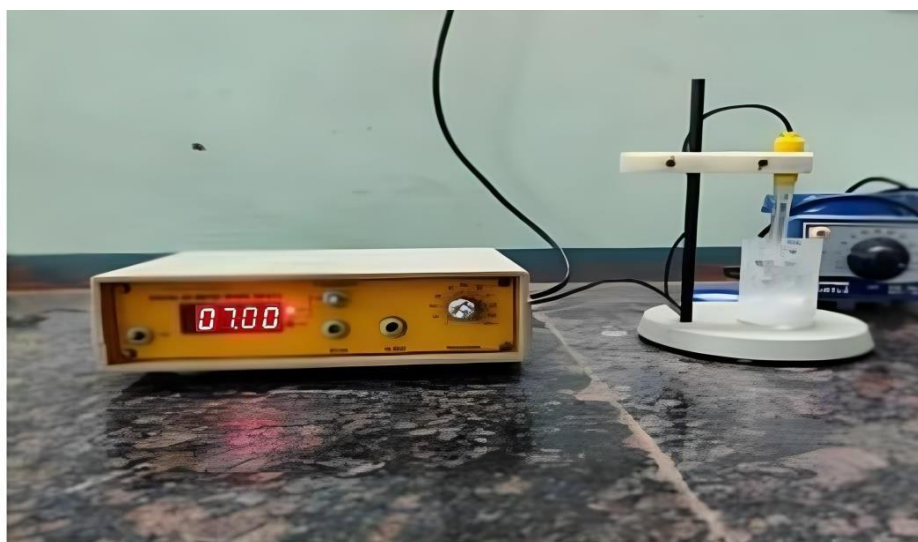


Figure: 21(pH TestPhase2&3)

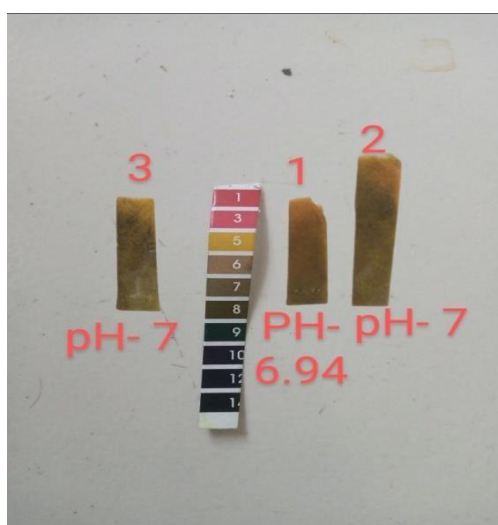


Figure: 22(pH Test)



Figure: 23(SpreadabilityTest)

II. DISCUSSION:-

When various evaluation criteria were applied to prepared moisturizing cream formulations, the results were within the bounds shown in table: 02 . All of the formulation had a smooth texture and creamish white colour. The pH of the formulation varied from 6.94 to 07. The viscosities ranging from 28575 to 38620cp. The formulation's washability was good.

III. CONCLUSION:-

Formulation and evaluation of herbal moisturizing cream by using herbal ingredients was successfully developed that met the relevant pharmaceutical characteristics. Jujube fruit, calendula and aloe-vera were therefore investigated based on the study's finding for its ability to moisturise skin while also reducing skin dryness. It was determined that this cream work well as skin moisturezer. Based on the findings, we conclude that all three formulations F1, F2 and F3, are stable, effective, non-toxic, and suitable for use on the skin.

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