

Preparation and Evaluation of Herbal Cold Cream

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Submitted: 05-08-2022

Accepted: 16-08-2022

ABSTRACT :

To formulate and evaluate herbal cold cream using Turmeric to give glowing & cooling effect.

Methods: The cream was prepared by using the cream base that is bee's wax, liquid paraffin, borax, distilled water, rose oil. The cream was prepared by using the slab technique/extemporaneous method for geometric and homogenous mixing of all the excipients and the herbal extracts. Cream was prepared & evaluated for different parameters like appearance, PH, viscosity, stability test, patch test, test for homogeneity, spread ability, smear test, evaluation of Emolliency & Test for microbial growth.

The cream showed good appearance, PH, adequate viscosity and no phase separation was observed. Also, the formulation showed no redness, erythema and irritation during patch study and they were easily washable was stable at room temperature. Conclusion: Herbal ingredient showed significant results, we can suggest that the cream was stable and can be safely used on the skin

I. INTRODUCTION :

The use of herbal products as cosmetics is as prevalent in modern era as it was in ancient times. Herbal cosmetics are mostly preferred because of their less or nil side effects when compared to synthetic products and show enhanced effects upon application .

These herbal cosmetics used as beauty products help in enhancing and conditioning properties of skin. The herbal extracts used in these formulations are all derived from natural plant sources without the use of any harmful synthetic drugs.

Chemical or synthetic drug/ API is avoided in the preparations because of various skin problems. The concept of herbal cosmetics was established long back in different systems of

medicine such as Rigveda, Yajurveda, Ayurveda, Unani and Homeopathy systems .

The herbs extracted by these systems show a number of properties like anti-inflammatory, anti-bacterial, anti-septic, emollient and sometimes also show anti-cancer properties .

Thus, there is extensive use of herbal cosmetics in skin care systems and an ever increasing demand in the market. Various kinds of creams such as vanishing cream, coldcream, multipurpose cream, etc .are most commonly used herbal cosmetic products for topical application. Cold Creams prepared are usually w/o type of emulsion instead of o/w type of emulsion as seen in vanishing creams and gives a cooling effect upon application.

This preparation of cold creams consist of herbal extracts of crude drugs such as rhizomes of *Curcuma longa* (turmeric), *Aloevera* gel, *Oleum rosae* (roseoil), *Oleum europaeae* (oliveoil). The main active ingredients .

The extract of *Curcuma longa* has been clinically proven to show anticancer properties upon topical application better than oral administration ,in addition to many other properties .

Curcumin shows many other properties such as wound healing, sun damage protection, aging treatment, skin cancer prevention (by selectively killing tumor cells and leaving the normal cells intact), and also treats chronic skin diseases .

These herbs have been selected according to traditional systems and are based upon their modern researched uses.



Turmeric Powder



Alovera Gel

PREPARATION OF COLD CREAM:

A. MATERIALS :

The rhizomes of *Curcuma longa* (turmeric) are collected, cleaned and dried for 2 days in sunlight. Then crushed into fine powder using a mortar and passed from a suitable sieve plate such as sieve #60 to get rid of coarse particles.

B.COMPOSITION OF HERBAL COLD CREAM :

Sr .No.	Ingredients	Quantity taken
1.	Beeswax	6 gm
2.	Liquid Paraffin	18 ml
3.	Borax	0.3 gm
4.	Turmeric Powder	0.3 gm
5.	Rose Oil	0.06 ml
6.	Alovera Gel	q.s
7.	Olive Oil	0.3 ml
8.	Distilled Water	q.s

B.METHOD :

Melt beeswax in a china dish on hot plate.

To this, liquid paraffin is added and then heat on a hot plate at 70°C.

Then in a 100ml beaker, borax was dissolved and heated along with olive oil on a hot plate at 70°C.

Both the oily and aqueous phases are heated at the same temperature I.e. 70°C and turmeric and alovera gel was added in the beaker.

Now borax solution is added gradually to the melted beeswax solution, drop by drop with constant stirring.

To this, few drops of rose oil is added to give fragrance.

It was stirred continuously until it cools down and a semi solid mass was obtain

EVALUATION TEST FOR CREAMS :

1.Organoleptic Properties :

The organoleptic properties such as color, odor and appearance was observed.

2.Determination of pH :

The pH value of freshly formulated emulsion was determined using a digital pH meter at room temperature.

3.Determination of homogeneity :

The homogeneity of the herbal preparation was observed by visual appearance and by touch.

4.Determination of spread ability :

The term spreadability is expressed as the extent of the area to which the topical application spreads when applied to the affected region of the skin.

The therapeutic efficacy of the herbal formulation is also dependent on its spreading range.

Thus, it is necessary to determine the spreading ability of the prepared formulation. For the determination about 3 gms of cream was applied between the two glass slides and pressed to obtain a thin film of uniform thickness.

A weight of 5 gm was placed over the top slide to apply the required pressure for 5 minutes. Followed by addition of about 10 gms of weight in a pan and the upper slide was subjected to pull with the help of a string attached to a hook.

The time taken by the two slides to slip over each other by a distance of 10 cm under certain load was noted.

Following is the formula to calculate the spreadability of the prepared formulation.

$$S = m \times L/T$$

Where,

S- solubility

m- weight tied to upper glass slide

L- length moved on glass slide

T- time taken.

The results were carried out in a triplicate manner and the average of these readings were noted

5. Determination of type of smear :

This test was conducted by the application of cream on the skin surface of a human volunteer for its greasiness. After application, the type of smear was observed.

6. Determination of viscosity :

The viscosity of the prepared emulsion was determined by using Brookfield viscometer. Spindle number S-64 at 20 rpm was used at a temperature of 25°C and was determined by taking an average of three readings.

7. Irritancy test :

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

Evaluation for type of emulsion :

8. Dilution test :

In this test type of emulsion is determined by diluting the emulsion either with water or oil. The emulsion is completely miscible with water if it is o/w type, as the dispersion medium is water and separates out if it is w/o type of emulsion. Similarly, w/o type of emulsion is miscible, if the emulsion is dissolved in oil but o/w type of emulsion is immiscible in oily liquid.

9. Test for microbial growth :

These tests were carried out to determine the microbial contamination of the prepared formulation in an agar medium. The prepared creams were inoculated on the plates of agar plate medium using streak plate method and a control was prepared without the cream.

These plates were placed into the incubator and were incubated at 37°C for 24 hours. After the incubation period, the plates were taken out and observed for microbial contamination in comparison with the control.



Streak Plate method

10. Patch test :

About 1-3 gms of the formulated creams was evenly applied on sensitive region of the skin surface such as the skin under the lower jaw. The cream for testing was applied on an area of 1 sq.m of the skin surface and the site was inspected after 24 hours of application.

11. Dye Test :

The Scarlet red dye is mixed with the cream. Place a drop of the cream on a microscopic slide then covers it with a cover slip, and examines it under a microscope. If the dispersed globules appear red the ground colorless. The cream is w/o type. The reverse condition occurs in o/w type cream i.e the dispersed globules appear colorless.

II. RESULTS :



Formulated Cream

1. PHYSICAL PROPERTIES :

The physical properties of formulated cream were judged by color, odor and texture

Sr. No.	Properties	Result
1.	Color	Yellow
2.	Odor	Characteristics
3.	Appearance	Semi-solid

Organoleptic properties of herbal cold cream

2. pH of the cream :

The pH of the cream was found to be in range of 5.8 which is good for skin.

3. Homogeneity :

The homogeneity of the formulated cream was judged by the visual appearance and touch. The appearance and touch of the cream were good.

4. Spread Ability test :

The spread ability test showed that the formulated cream has good spreadable property.

5. Smear test : The formulated cream is less greasy.

6. Viscosity:

Viscosity of formulated cream was determined by Brookfield viscometer at 20 rpm using spindle no. LV-4(64). The viscosity of cream was in the range of 499990 to 30000cp which indicates that the cream is easily spreadable by small amount of shear. The formulated cream shows the viscosity within range i.e. 48890cp.

7. Irritancy test:

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

8. Dilution test:

The formulated cream is w/o type of Emulsion.

9. Test for microbial growth:

There was no sign of microbial growth after 24 hrs of incubation at 37°C and it was comparable with the control.

10. Patch test :

The formulated cream shows no redness, and formulated cream is safe to use.

11. Dye test:

The Scarlet red dye is mixed with the cream. Place a drop of the cream on a microscopic slide then covers it with a cover slip, and examines it under a microscope. The dispersed globules appear colorless in the red ground i.e. w/o type cream.

III. DISCUSSIONS :

The organoleptic properties of formulated herbal cold cream were evaluated and the results were apt. Other physical parameters like pH, homogeneity, type of smear, emolliency, viscosity and type of emulsion were also evaluated accordingly and pH was found to be compatible with the pH of skin secretions and showed proper pH range that is approximately pH 6, prepared formulation showed good spread ability and emolliency.

The thermal stability studies were also conducted for a month, there was no sign of separation of aqueous and oily phases.

The formulated cream was studied for microbial contamination, no sign of microbial growth was visible after the specified incubation period of 24hrs and further more a patch test was done which shows, it is safe to use the prepared herbal turmeric cold cream as it did not show any signs of irritancy, redness.

IV. CONCLUSION :

From the above results it is concluded that the formulated cream showed good consistency and spread ability, homogeneity, pH, non-greasy and there is no phase separation during study period of research. From the above study it can be concluded that the herbal cold cream is safe to use as it is developed from herbal extract. Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones.

So, the values of herbs in the cosmeceutical has been extensively improved in personal care system and there is a great demand for the herbal cosmetics nowadays. A herbal cream which is non-toxic, safe, effective and improves patient compliance by the utilization of herbal extracts would be highly acceptable than synthetic ones.

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