

## Research Article- Formulation and Evaluation of Herbal Cold Cream

SHERAZ KHAN AZHER AHMAD KHAN

Student, P – Wadhvani College of Pharmacy, Yavatmal, Maharashtra, India

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### Abstract:

Herbal cosmetics are used in nourishment and moisturizing the skin, they are useful to enhance beauty and human appearance. In further formulation and evaluation of herbal cream that contains plant extracts, liquid paraffin as a lubricating agent, bees wax as stabilizer, methyl paraben as antibacterial agent by using water in oil method. almond oil and neem oil, the herbal cold creams are formulated and evaluated. Evaluation parameters like pH, viscosity, stability test, dye test spreadability, microbial growth test. herbal products are safe and affective which have less adverse reactions and are non-toxic in nature. By studying the following herbal evaluation parameter is was concluded the formulated herbal cold cream is safe, non toxic in nature, ready to use.

**KEY WORDS:** Cold cream, formulation of cold cream, pH, viscosity.

### I. INTRODUCTION:

In ancient age human beings are using to improve their external appearance, to improve chances of social success and to highlight their self esteem. The word cosmetics was derived from the Greek word 'kosm tikos' which means something having the power, arrange, skill in decorating. The term Cosmeceutical was first used by Raymond Reed founding member of US Society of Cosmetics chemist in 1961. He actually used the word to brief the active and science based cosmetics. The term was further used Dr. Albert Kligman in 1984 to refer the substance that have both cosmetic and therapeutic benefits.

Herbal preparations are the basis for finished herbal, products and may include comminute or powdered herbal materials, or extracts, tinctures and fatty oils of herbal materials. They are produced by extraction, fractionation, purification, concentration, or other physical or biological processes. They also include preparations made by steeping or heating herbal materials in alcoholic beverages and/or honey, or in other materials. Finished herbal products consist of herbal preparations made from one or more herbs. If more than one herb is used, the term "mixture herbal product" can also be used. Finished herbal products and mixture herbal products may contain excipients in addition to the active ingredients.

We are studying the formulation and evaluation of cold cream. Cold cream is the water in oil. Cold cream gives the prolonged contact time in the site of application as compared to the other semi solid dosage form or formulation. The function of the cold cream is for restoring moisture to dry skin, it allows to eliminate the waste materials from the pores and also cools the body. It is easily watered washable and easy to wash away. They are non-irritating when applied on the skin.

The function of a skin cream is to protect the skin against different environmental condition, weather and gives soothing effect to the skin. There are different types of creams like cleansing, cold, foundation, vanishing, night, massage, hand and body creams. The main aim of our work is to develop a herbal cream which can give multipurpose effect, like moisturizer,

reduce acne and skin irritation, reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes etc. and also adding glow to the face. We have used two herbal ingredients in our preparation which are Neem, Almond. Aloe Vera gel is used as a moisturizer, to reduce pimples and acne and also used for treatment of burn wounds. Neem is used as an antifungal and anti-inflammatory and it is also used to reduce scar, pigmentation, redness and itching of the skin. Cold cream is the water in oil emulsion. Cold cream gives the prolonged contact time in the site of application as compared to the other semisolid dosage form or formulation. They give elegance to the skin and it is not that much greasy. Due to the oil phase, it gives an emollience to the skin. The function of the cold cream is for restoring moisture to dry skin, it allows to eliminate the waste materials from the pores and also cools the body. It is easily watered washable and easy to wash away. They are non-conservation to the skin. It gets liquefy at body temperature natural pores.

#### Advantages of Herbal Cold Cream.

- As cold creams contain enough amount of water and oil, they keep skin safe from the rough environments.
- It Prevents ageing and dehydration of skin.
- They also keep skin moisturized and safe.
- Cold creams are designed to remove makeup and smooth the skin.
- To help in the maintenance of moisture balance of skin and avoid rough skin co uses of cold cream.
- Medicated cold cream is mainly used as topical pharmaceutical dosage form for the treatment of skin.
- To provide an emollient effect and oily protective layer on the skin.

#### Ideal Properties of Herbal Cold Cream

- pH must be 4.6 to 6.0
- Should be less greasy and easily spreadable.

- Should be stable.
- Should give faster emollient effects.
- Should give the cooling effect.

#### Application of Cold Cream

Cold creams are used in number of different ways like, makeup remover, it removes makeup without water. the thick oils of cream gently melts makeup and dirt away, without any damage to the skin.

Cold creams are also affective as body lotions, shaving creams. Applying cold creams to your body delivers hydration that the cream is designed to provide to your face but to your arms, legs and back.

#### INGREDIANTS OF FORMULATION:

The details of the plant material used for the formulation of cold cream are mentioned below

- Almond oil
- Neem oil
- Borax
- Beeswax
- Rose water

#### Almond Oil

It contains omega-3 fatty acids with is helpful to maintain the healthy cholesterol levels and memory booster. In Cold cream almond oil is used as Anti-inflammatory agent.



## Almond oil

### Neem Oil

Neem oil contains Azadirachtin which is extracted from the neem tree. Neem oil is naturally occurring pesticide found in seeds from the neem tree



### Neem Oil

#### Borax

Due to its mild and antiseptic nature, quite a few natural cosmetic products tend to include Borax as an essential ingredient as well. In cosmetic products, borax is sometimes used as an emulsifier, buffering agent, or preservative for moisturizing products, creams, shampoos, gels, lotions, bath bombs, scrubs, and bath salts.



## Borax

### Bee wax

It can protect skin from environmental irritants and extreme weather. Promotion of Hair Growth- Beeswax not only moisturizes and soothes hair, but it can keep moisture from getting out of the hair. Beeswax can create a protective layer on the skin. It's also a humectant, which means that it attracts water. It can help you fight conditions like acne, dry skin, eczema, and stretch marks. Our raw beeswax can help you create your own skin care moisturizers and lotions specially formulated just for you.



### Bee wax

#### Rose water

Rose Water Maintains the Skin's Natural pH Balance. Chemically produced soaps and cleansers disrupt the pH balance of our skin, making it prone to bacteria that cause various skin conditions like rashes and acne. This property helps rose water restore the skin to its normal pH level.



### Rose water

### Method of Preparation

- Take required quantity of Beeswax and Liquid paraffin in porcelain dish.
- Heat this mixture in water bath for melting purpose. Remove dish from water bath.
- Take Borax and distilled water in beaker. Heat this solution in water bath for about 75C.
- This Borax solution added drop wise in porcelain dish with continuous stirring. Add Methyl paraben in porcelain dish dissolved it.
- Add Neem oil and Almond oil in this solution. Add perfume for fragrance.
- Herbal Cold Cream was obtained

Sr.No	Name of Ingredient	Quantity for 100gm
1	Methyl Paraben	0.010gm
2	Borex	0.25gm
3	Beeswax	15gm
4	Liquid paraffin	50gm
5	Neem oil	23gm
6	Almond oil	25gm

### Composition of herbal cold cream

### Evaluation of herbal cold cream:

### Morphological evaluation:

**Physical properties:** color, odor and appearance was observed.

### Physicochemical Evaluation

**pH:** The pH meter was calibrated with the help of standard buffer solution. Weight 0.5 gm of cream dissolved it in 50 ml of distilled water and its pH was measured with the help of digital pH meter.

**Viscosity:** Viscosity of the cream was determined with the help of Brookfield viscometer at 100 rpm with the spindle no.

**Spread ability test:** The cream sample was applied between the two glass slides and was compressed between the two-glass slide to uniform thickness by placing 100 gm. of weight for 5 minutes then weight was added to the weighing pan. The time in which the upper glass slide moved over the lower slide was taken as a measure of spread ability.

Spread ability= $m * l/t$

Where M =weight tight to upper slide

L =length moved on the glass slide

T =time take

**Irritancy test:** Mark an area (1 sq.cm) on the left-hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythema, edema, was checked if any for regular intervals up to 24 hrs. and reported. [25,26]

**Test for microbial growth:** Agar media was prepared then the formulated cream was inoculated on the plate's agar media by steak plate method and a controlled is prepared by omitting the cream. The plates were placed in the incubator and are incubated in 37 0 C for 24 hours. After the incubation period, the plates were taken out and the microbial growth were checked and compared with the control.

**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 disperse globules appear red the ground colorless. The cream is o/w type. The reverse condition occurs in w/o type cream i.e. the disperse globules appear colorless.

**Homogeneity:** Homogeneity was tested via the visual appearance and test.

Sr.No	Parameter	Observations
1	Color	Whitish green
2	Odor	Pleasant
3	Texture	Smooth

### Physicochemical Evaluation

#### pH:

The pH of the cream was found to be in range of 5.6 to 6.8 which is good for skin pH. The herbal formulation was shown pH nearer to skin required i.e. **pH 6.65**

#### Washability:

Washability test was carried out by applying a small amount of cream on the hand and then washing it with tap water.

#### Viscosity:

Viscosity of cream was done by using Brooke field viscometer at a temperature of 25 °C using spindle No. 63 at 2.5 RPM. According to the results all the formulations showed adequate viscosity.

#### Test for microbial growth:

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

#### Spread ability test:

The spread ability test showed that the formulated cream has good spread able property. The separate in the description of evaluation test lesser the time taken for separation of the two slides better the spread ability.

#### Dye test:

The scarlet red dye is mixed with the cream. Place a drop of the cream on a microscopic slide covers it with a cover

### Results

The color of formulation was yellowish. The odor of prepared formulations was pleasant and good acceptable which is desirable to cosmetic formulations. Texture and smoothness were acceptable as per requirement of cosmetic formulations.

slip, and examines it under a microscope. The disperse globules appears colorless in the red ground i.e. w/o type cream.

#### Homogeneity:

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

## II. CONCLUSION

Herbal formulations have growing demand in the world market. Herbal face masks are considered as productive way to advance the appearance of the skin. they are used to stimulate blood circulation, help to maintain skin elasticity. In further studies we have formulated a the herbal cold cream by using easily available ingredients like neem oil, almonds oil. It suggested that prepared formulation was physicochemically and microbiologically stable and having characteristics of the standard cosmeceutical formulation of skin care roducts.

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