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Review Article

Formulation And Evaluation of Herbal Cold Cream

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ABSTRACT

Herbal cosmetics are products designed to enhance and improve human appearance using natural ingredients. The present study aimed to formulate and evaluate an herbal cold cream intended to nourish and moisturize the skin. The formulation included plant extracts, liquid paraffin as a lubricating agent, beeswax as a stabilizer, and methyl paraben as an antibacterial agent. The cold cream was prepared using the water-in-oil emulsion method, incorporating neem oil and almond oil. Following its preparation, the cream was evaluated based on several parameters, including appearance, pH, viscosity, stability, dye test, spreadability, and microbial growth. The evaluation results indicated that the formulation was a successful attempt at developing a herbal face cream using naturally available ingredients such as neem and almond oils. Furthermore, the formulation was found to be physico-chemically and microbiologically stable, exhibiting the essential characteristics of a standard cosmeceutical skincare product.

INTRODUCTION

Cosmetics are the products which are generally used to beautify the skin and also to purify the skin. The cosmetics are the word derived from Greek word – 'kosmestikos' which means to adorn. 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-irritating when applied on the skin. The water phase gives extra conservation to the skin. It Gets liquefy at body temperature. It gets penetrated via the epidermis of the skin via the natural pores. More recently Anti-aging creams have been manufactured which can retain younger looking skin for many years.

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The best Cleansing agents are cleansing creams, soap and water. Cream is defined as semisolid emulsions which are oil in Water (o/w) or water in oil (w/o) type and these semisolid emulsions are intended for external application. Cream is Classified as oil in water and water in oil emulsion. It is applied on outer part or superficial part of the skin and its Main ability is to remain for a longer period of time at the site of application. 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. From that time the materials which are used to promoting appearances or to beautify the skin are called as Cosmetics.

From ancient time till now people are still using polyherbal or herbal cosmetics for the

beautification of 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 elegancy 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.

Cold Creams:

■ Cold cream is an emulsion of water and certain fats that is used to smooth skin and Remove makeup. It typically contains beeswax and other fragrances.

■ The European Pharmacopoeia refersto it as Fatty Cream.

■ Water and oil are combined in every type of cold cream. The water in the creamEvaporates as you apply it to your skin, giving you a cooling sensation. Most likely, the name Came from this chilling effect.

■ THE ANATOMY OF SKIN

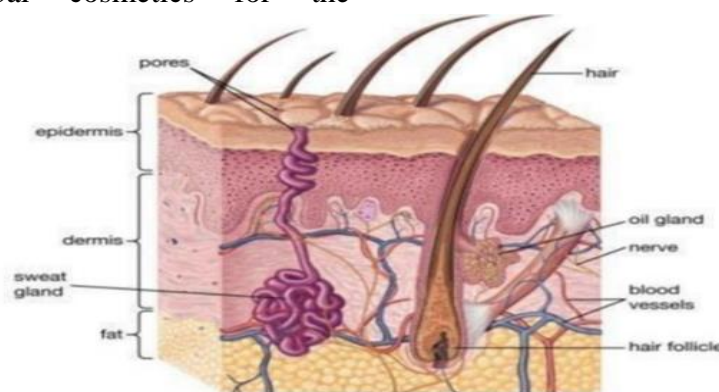


Fig 1.1: Human Skin

Skin is the largest organ of the body in term of surface area and weight. It has surface area of approximately 16000cm. In adults, skin represent 8% of body weight. It is the outermost layer or tissue of the living body. Skin Shows a protective mechanism from external environment. Skin can produce a favorable chemical substance named As vitamin D when skin is exposed in sunlight. The skin helps to regulate the temperature of the human body and Also acts as sensory organ. Skin includes various cellular elements like melanocytes, erythrocytes, keratinocytes etc. It has multi-layer structures because of different components like cells and fibers.

The skin consists of skin layers

A. The Epidermis

The outermost layer of the skin is called epidermis which having thickness of about 0.2mm. No veins and capillaries Are located in this layer. The thickness of epidermis is depending upon the location of the body. The epidermis Mainly consists two types of cells- keratinocytes and dendrites cells. It also contains other number of cells like Melanocytes, Langerhans cells etc. The epidermis layer is also called as the metabolic active tissue.

The outermost layer is classified into five sub layers and these are

- 1)Stratum corneum
- 2)Stratum lucidum
- 3)Stratum granulosum
- 4)Stratum spinosum
- 5)Stratum Basale

1) Stratum corneum: The exterior sublayer of the epidermis is called as stratum corneum. It is also referred as the Horny cell layer having thickness

of about 8-15µm. The layer is of hexagonal shaped and is helpful for prevention of Skin from the large amount of dehydration. It contains main component “ceramide”, which having important role in Water retention.

2) Stratum lucidum: Stratum lucidum is composed as thin clear layer of dead skin cells. It is found only in areas of Thick skin on the palms of the hands and soles of the feet.

3) Stratum granulosum: The layer is also called as granular cell layer having thickness of 3µm. It contains 2-4 Layers of granular cell. The shape of the cells is flatter because the keratin fibers are increasingly filled up into the Cells.

4) Stratum spinosum: It is also called prickle cell layer having thickness ranges from 50- 150µm. It consists of Number of cells, which may differ in shape and structure.

5) Stratum basale: Stratum Basale is composed as single layer and is the deepest and sublayer of epidermis. In Stratum basale, keratinocytes are produced and shows their movement upward to the outer surface. The process of Movement of keratinocytes is known as turnover. For one cycle of this process takes days and keratinocytes also Changes their functions and structure. This is also called as basal cell layer and holds 8% of water in epidermis

B. The Dermis

- 1) Most of the magic happens in the dermis — at least in the skin. Most of the dermis is made up of collagen and Elastin as well as fibroblasts . This layer has several functions.
- 2) In the dermis there are blood vessels and the lymphatic vessels that nourish the skin and eliminate waste products Or toxins.



- 3) Sweat glands are present in the dermis. They create sweat through your pores, removing impurities as cool your Body.
- 4) The hair follicles (where your hair attaches) and the sebaceous glands, which produce the oils that make the skin Soft and smooth the skin- sometimes overzealously resulting in rashes and oily skin — are also found in the Dermis.
6. To help in the maintenance of moisture balance of skin and avoid rough skin co uses of cold cream (non-Medicated)
7. As cleansing preparation to remove make
8. To provide an emollient effect and oily protective layer on the skin.
9. Also, provide a chemical barrier as with sun block ingredients.

C. The Subcutaneous layer

- 1) The deepest layer of skin is the layer of fat that connects your bones to your muscles and bones. It goes Deep that the active ingredients in your skincare products can never reach.
- 2) The subcutaneous layer is like a thermostat. It protects the body and can also be used as a source of energy in a Pinch.
- 3) Fat also acts as a filter, protecting your muscles, bones and organs from damage.
- 4) Finally, the subcutaneous layer contains additional blood vessels, nerve endings, hair follicular roots and the Deepest oil-producing sebaceous glands

Advantages of Herbal Cold Cream

1. It Prevents ageing and dehydration of skin.
2. As cold creams contain enough amount of water and oil, they keep skin safe from the rough environments.
3. They also keep skin moisturized and safe
4. Cold creams are designed to remove makeup and smooth the skin
5. Medicated cold cream is mainly used as topical pharmaceutical dosage form for the treatment of skin.

10. As a carrier for drug substances such as diflucortolone valerate in medicated cream.

Ideal Properties of Herbal Cold Cream

1. It should not normally be diluted.
2. The pH of the cold cream must be optimum from 4.6–6.0
3. Its consistency should be optimum so that it can be easily put out from the container and apply easily.
4. Should Give a cooling effect on the skin after external application.
5. It must provide a thin waxy protective layer on the skin to protect the water evaporation from the skin surface.
6. Should give a faster emollient effect, so that very dry skin can swell up and become soft within a short time.
7. Less greasy than ointment and Easily spread on the skin.
8. It should be physically and chemically stable throughout its shelf-life.
9. The excipients should be compatible with each other. It should be sterile.

Application of Herbal Cold Cream to skin



Despite their intended design as facial moisturizers, cold creams are actually very versatile and can be used in a Number of different ways. First, one of its most popular uses is as a makeup remover. The thick oils are able to Gently melt makeup and dirt away, allowing it to be removed with minimal damage, rubbing or scrubbing. Similarly, Some find it effective as a primer for cosmetic foundations as it smooths the skin and allows makeup to be applied More evenly across the face. Since it removes makeup without water, Kelly says it even is a great product to take Camping or on road trips where you may be away from your bathroom sink or shower! Lastly, cold creams can also Be effective as a lip balm, body lotion, or even a shaving cream. Using a cold cream on your lips helps lock in vital Moisture and provide hydration throughout the day to the sensitive skin on the lips. Likewise, applying a Moisturizing cold cream to your body delivers the same intense hydration that the cream is designed to provide to Your face but to your arms, legs, back, and hands.

Cold Cream Benefits

The benefits of cold cream are quite simple. By design, cold cream is meant to topically moisturize the skin, so Anyone looking to boost the hydration of their skin can benefit from using this product. However, those with Particularly sensitive skin or dry, itchy skin will benefit the most from using it daily to improve the texture and Appearance of their complexion. These effects are likely the result of the cold cream's ability to help restore the Skin's effectiveness as a natural barrier to the environment.

Ingredients of Formulations

All the natural materials used in the present study i.e., Almond oil, Neem oil from local market, in a form of dried Powder. The details of the plant

material used for the formulation of cold cream are mentioned below

1. Almond oil
2. Neem oil
3. Borax
4. Beeswax
5. Rose water
6. Aloe Vera
7. Coconut oil
8. Liquid paraffin
9. Sandalwood oil
10. Rose oil
11. Vitamin E capsule
12. Methyl paraben.

DRUG AND EXCIPIENTS PROFILE

■ Borax



Fig. Borax

Borax, combined with wax, is used in many cosmetic products like creams, gels, and lotions. It is famously used in Hand soaps to help wash off the oil or grease from the hands. Borax's alkaline

nature makes it a perfect ingredient in Cleansers and toners. 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 is Also an ingredient combined with glue and water to make “slime,” a gooey material that many kids enjoy playing With right from creams and body lotions to shampoos, bath gels and even the in-vogue bath bombs, just about every Product associated with skincare has Borax as one of its components. Given its mild and antiseptic nature, quite a Few natural cosmetic products tend to include Borax as an essential ingredient as well.

■ ALOE VERA



Fig. Aloe Vera

■ The strong concentration of natural lubricants in Ayur herbals cream with aloe vera creates A dense layer of moisture on the epidermis, slowing the rate of water loss from the skin.

■ Aloe vera contains natural moisturizing agents that help to hydrate and soothe the skin. It Is also rich in antioxidants, which can help to protect the skin from damage caused by free Radicals. Additionally, aloe vera has anti-inflammatory properties, which can help to reduce Redness and irritation on the skin.

■ BEES WAX



Fig. Bess Wax

■ Skin moisturising, acne clearing, healing of dry skin, reduction of stretch marks, anti-Inflammatory properties, and liver protection.

■ A beeswax-based emulsion that served as a thickening and emulsifier was described to us. Emulsifying agents like beeswax are employed.

■ COCONUT OIL



Fig. Coconut Oil

■ Coconut oil is an excellent moisturizer that helps to keep the skin hydrated and prevents moisture loss. It forms a protective barrier on the skin, preventing dryness and maintaining softness.

■ Nourishing Antioxidant activity:-These antioxidants help to protect the skin from damage

caused by free radicals and environmental stressors.

■ ROSE WATER



Fig. Rose Water

Rose water is especially hydrating when combined with other moisturizing ingredients, such as ceramides or Glycerin. “These help to moisturize the skin, protect the skin barrier and prevent further water loss from the skin,” Says Allawh. However, it shouldn’t replace your current moisturizer. Rose water has been used as a beauty product For thousands of years, so it’s no surprise that it can improve your complexion and reduce skin redness. The Antibacterial properties may help reduce acne. The anti-inflammatory properties can reduce skin redness and Puffiness. 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.

■ Liquid Paraffin



Fig. Liquid Paraffin

Liquid paraffin, also known as mineral oil, is a common ingredient in cold creams due to its Beneficial properties:

1. **Emollient:** Liquid paraffin is an effective moisturizer that helps to soften and smooth the Skin by forming an occlusive barrier, preventing water loss.
2. **Solvent:** It helps dissolve other ingredients in the cream, ensuring a uniform Consistency.
3. **Texture Enhancer:** It provides a silky texture to the cream, making it easy to apply and Spread on the skin.
4. **Inert and Non-reactive:** Liquid paraffin is chemically stable and doesn’t react with other Ingredients, making it a reliable base for formulations.

■ SANDALWOOD OIL



Fig. Sandalwood Oil

Sandalwood is sometimes used in cold creams due to its beneficial properties for the skin.

Here's how sandalwood contributes to cold cream formulations:

1. **Anti-inflammatory:** It helps to reduce redness, swelling, and inflammation, making it Beneficial for sensitive or irritated skin.
2. **Antimicrobial:** Sandalwood has natural antimicrobial properties, which can help to Prevent bacterial growth and maintain skin hygiene.
3. **Soothing:** It provides a soothing effect, helping to calm and relax the skin, which can be Particularly useful for conditions like acne, eczema, and psoriasis.
4. **Moisturizing:** Sandalwood helps to lock in moisture, keeping the skin hydrated and soft.

OBJECTIVES

- ☐ To evaluate the safety, effectiveness, and quality of herbal cold cream.
- ☐ Explore various aspects of India's rich traditional herbal medicine.
- ☐ Apply the knowledge gained in the course in evaluating the usefulness of herbal Prescriptions.
- ☐ Formulation and evaluation of cosmetic herbal cold cream for glowing skin using Naturalherbal ingredients.

To synthesize a cold cream suitable for all skin types.

HUMAN SKIN:

Human skin is the body's largest organ and serves as a critical barrier between the internal

body and the external environment. It performs multiple vital functions, including protection, regulation, and sensation. Structurally, human skin is composed of three main layers: the epidermis, the dermis, and the hypodermis (or subcutaneous tissue).

1. Epidermis: The outermost layer of the skin, the epidermis, is primarily composed of keratinocytes, which produce keratin, a protein that gives skin its strength and waterproof qualities. The epidermis has several sub-layers, including: *Stratum

Corneum: The outermost layer, consisting of dead, flattened keratinocytes that are

regularly shed and replaced. *Stratum Lucidum: A thin, clear layer found only in thick skin, such as on the palms and soles. *Stratum Granulosum: Contains keratinocytes that are beginning to die and release lipids, contributing to the skin's barrier function.

Stratum Spinosum: Provides strength and flexibility to the skin. *Stratum Basale: The deepest layer, where new keratinocytes are produced. It also contains melanocytes, which produce melanin, the pigment responsible for skin color.

2. Dermis: Beneath the epidermis lies the dermis, a thicker layer composed of connective tissue that provides structural support and elasticity to the skin. The dermis contains: *Collagen and Elastin Fibers: These proteins give the skin its strength and elasticity. *Blood Vessels: Supply nutrients and oxygen to the skin and help regulate temperature. *Nerve Endings: Enable sensations of touch, pain, and temperature. *Hair Follicles and Sweat Glands: Play roles in temperature regulation and excretion.



3. Hypodermis: The hypodermis, or subcutaneous tissue, is the deepest layer of the skin. It consists primarily of adipose tissue (fat), which provides insulation, energy storage, and cushioning for the underlying tissues and organs. This layer also contains larger blood vessels and nerves

Benefits of herbal cosmetics

- ☐ Natural elements have the least detrimental effects on the skin or other bodily Components.
- ☐ Comparatively safer.
- ☐ Due to its use in customs and culture, consumers have a greater placebo effect.
- ☐ Formulation flexibility.
- ☐ Population data demonstrate ancient consequences.
- ☐ Simple accessibility.
- ☐ It helps to beautify and cleanse the body without causing any negative side effects. Herbal cold cream properties
- ☐ Emollient
- ☐ Hydrating
- ☐ Non-comedogenic
- ☐ Occlusive

■ Almond Oil



Fig. Almond Oil

1. Emollient:

- ☐ Softens and smoothens skin; ideal for dry or sensitive skin.

2. Moisturizer:

- ☐ Penetrates easily, helping to retain moisture.

3. Carrier Oil:

- ☐ Commonly used to dilute essential oils.

4. Anti-inflammatory:

- ☐ Helps reduce itching, inflammation, and skin irritation.

5. Anti-aging:

- ☐ Rich in Vitamin E and antioxidants, which help in reducing wrinkles and fine lines.

6. Skin Nourishment:

- ☐ Promotes healthy and radiant skin.
- ☐ Enhances moisturizing effect.
- ☐ Provides nutrients to the skin.
- ☐ Improves spreadability and consistency of the cream.
- ☐ Has a non-greasy feel and pleasant aroma.

CONCLUSION: -

The present review highlights the formulation and evaluation of a herbal cold cream enriched with natural ingredients known for their skin-nourishing, moisturizing, and therapeutic properties. The combination of Aloe Vera, Neem oil, Almond oil, Coconut oil, and Vitamin E provides effective hydration, anti-inflammatory, antibacterial, and antioxidant benefits, making the cream suitable for daily skincare. The use of natural oils like sandalwood and rose oil enhances the sensory appeal and adds aromatic and soothing effects. The incorporation of beeswax and borax ensures stability and consistency in the emulsion. Overall, the herbal cold cream formulated using these ingredients shows promising results in terms of spreadability, consistency, stability, and user acceptability, offering a natural and safe alternative to synthetic skincare products. Further clinical studies and dermatological testing may help validate its efficacy and promote its use in cosmetic and therapeutic applications.

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