

FORMULATION AND EVALUATION OF HERBAL MOISTURISING CREAM

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ABSTRACT

Both men and women use cosmetics extensively to enhance their appearance and impart beauty. Due to their safety, herbal cosmetics are becoming more and more popular. Additionally, because they are made by extracting natural herbs and shrubs, they have fewer adverse effects. Many people find it to be highly acceptable due to its good quality standards, affordability, and ease of use. Herbal cosmetics are prepared in many forms like Moisturising cream preparations containing natural extract of crude drugs like lemon grass oil, rose water etc. by adding variety of ingredients in formulation. Cream is an emulsion that, when applied to the skin, has a cooling effect because the water in it evaporates slowly. These formulations can be evaluated by using various evaluation parameters like pH, viscosity, irritancy, spread-ability, microbial growth, thermal stability, after feel, wash-ability, physical properties, after feel, study etc. The purpose of this review is to gather data on various herbal cold cream formulations and assess them. Herbal Moisturising cream formulations studied by many researchers and this information can be used by many researchers for novel herbal cosmetic formulations with new herbs.

KEYWORDS: Moisturiser, Cream, Cosmetics.

INTRODUCTION

Cosmetics

Cosmetics are usually used to beautify the skin and purify it. Cosmetics are the Greek word for adorning, derived from the word "kosmestikos". Cold cream is the water in the oil emulsion. Cold creams, as opposed to other semisolid doses or formulas, offer a longer contact time at the application site.^[1] Cosmetics can be defined as a variety of materials, technical compounds, used for skin cleansing, nourishing and hydrating. They can be used in various forms to alleviate skin problems, correct flaws and beautify the skin.^[2] The term "herbal cosmetics" refers to products that contain more herbal ingredients and are solely intended to provide specific cosmetic benefits. The demand for herbal medications is growing quickly because they have few side effects. Herbal cosmetics are made from herbs and shrubs. Natural herbs do not have any harmful effect on the skin. Nowadays, cosmetics are used to improve their appearance. Cosmetics prepare and use cosmetics to improve their beauty.^[3]

Moisturiser

It's long been known that maintaining skin suppleness and preventing "dry skin" depends on the amount of water in the epidermis.^[4] It was once thought that moisturising prevented transdermal water loss (TEWL) through closure. Water rises upward from the deeper layers of the epidermis to hydrate the cells of the stratum corneum (SC), where it eventually evaporates. It was

once believed that moisturising would stop transdermal water loss (TEWL) by closing. Water comes from the lowermost layers of the epidermis, rises to form moisture cells in the stratum corneum (SC) layer, and then evaporates to disappear. The most crucial element influencing skin moisture levels overall as well as skin water flow and retention is SC architecture.^[5] Moisturisers greatly increase skin water retention, as demonstrated by increased skin capacity, but they have little effect on the mechanical properties of the skin (distension, hysteresis, elasticity).^[6] When applying moisturisers, it is advised to use lipid-rich formulations to enhance skin plasticity.^[7]

Advantages and Disadvantages**Advantages of herbal Moisturiser**

- Ease of application.
- Convenient to all the population.
- Avoidance of risk.
- In case of intra and inter-patient variations, avoid fluctuation of drug levels.
- No special risk or technician required for application of product.
- Achievement of efficacy with lower total daily dosage of drug.
- High patient compliance.

Disadvantages of herbal Moisturiser

- Larger particle sized drugs cannot be easily absorbed through the skin pores.

- Chances of skin irritation of contact dermatitis due to any drug interactions.
- Poor absorption may result due to the poor permeability of some drugs through the skin.
- Chances of allergic reaction.
- It can be used mainly for drug which required very small plasma concentration for action.
- Denaturation of the drugs takes place due to the presence of an enzyme in epidermis.

Drug Profile

1. Lemon grass oil

Sr. no	Name of ingredients	Scientific name	Quantity	Uses
1.	Lemon grass oil	<i>Cymbopogon citratus</i>	2ml	hydrate and nourish skin
2.	Borax	<i>sodium tetra borate decahydrate</i>	0.16gm	Stability maintain
3.	Beeswax	<i>Apiccerana, Apis Mel, Apismellifera, ApisMellif</i>	3.2gm	emulsifying agent, stabilizer
4.	Liquid Paraffin	<i>petrolatum</i>	10ml	Prevents skin itching and lubricating agent
5.	Methyl Paraben	<i>methyl p-hydroxybenzoic acid</i>	0.02gm	Antibacterial properties and Preservation
6.	Rose water	<i>Rosa Damascene</i>	q/s	Fragrance

Numerous bioactive ingredients in lemongrass give it its own therapeutic benefit. Applications in ethnopharmacology have been extensively documented.^[8] Citronella grass, also referred to as little grass, is a member of the genus *Cymbopogon* and family *Poaceae*. Approximately 140 species make up the *Cymbopogon* family, which is widely distributed throughout tropical and semi-dark regions on the continents of Asia, America, and Africa. There aren't many lemongrass species in Europe and Australia. In addition to its English name, "squinant," lemon grass is referred to by many other names worldwide. Members of the *Cymbopogon* genus are also referred to as aromatic grasses because they produce volatile oils.^[9,10]

2. Borax

Many cosmetic products, including creams, gels, and lotions, contain borax and wax in combination. Borax's alkaline properties make it an ideal ingredient for toners and shampoos. Borax can be used as a moisture-retaining, buffering, or preservative agent in cosmetics, including moisturisers, creams, shampoos, gels, lotions, bath bombs, soaps, and bath salts. Another ingredient found in many children's playthings, such as body lotions, shampoo, bath gel, and even stylish bath bombs, is borax mixed with glue and water to create "slime." Borax is also frequently used as a necessary ingredient in a number of natural cosmetics due to its gentle and antimicrobial properties.^[11]

3. Beeswax

Enhanced protection: A layer of beeswax can be applied to the skin to provide additional defence. It shields the skin from harsh weather conditions and environmental irritants. **Hair Growth Promotion:** Beeswax can stop moisture from escaping the hair in addition to calming and moisturising it. Beeswax has the capacity to provide a protective layer for the skin. Additionally, it attracts water because it is a humectant. The skin is kept hydrated by these two characteristics. Bee wax is another effective

natural exfoliant for getting rid of dead skin cells. Beeswax is an antibacterial and skin-healing substance. It can aid in the fight against conditions like eczema, stretch marks, dry skin, and acne. You can create your own customised lotions and moxies for skin care with our raw beeswax.^[12,13]

4. Rose water

When mixed with other moisturising ingredients like glycerin and acetate, rose water becomes even more hydrating. According to Allawh, "they aid in hydrating the skin, preserving the skin barrier, and halting additional skin water loss." It shouldn't, however, take the place of your existing moisturizer. Given that rose water has been used for thousands of years as a cosmetic, its ability to improve skin and lessen redness should come as no surprise. The antibacterial qualities can aid in acne reduction. The skin's redness and puffiness can be diminished by the anti-inflammatory qualities. Rose water preserves the skin's natural pH balance. Chemical cleansers and soaps upset the pH balance of our skin, leaving it open to bacteria that can cause a range of skin conditions, including acne and rashes. This characteristic aids in the skin's pH balance being restored by the rose water.^[14]

METHODOLOGY^[15,16,17]

Table 2: Ingredients for formulation.

Sr. no	Ingredients	Quantity
1.	Lemon grass oil	2ml
2.	Borax	0.16gm
3.	Beeswax	3.2gm
4.	Liquid Paraffin	10ml
5.	Methyl Paraben	0.02gm
6.	Rose water	q/s

Procedure

- To start, we weight each ingredient.
- Now we add the 3.2gm of weight bees wax to the China dish.

- Next, pour 2 ml of pure lemongrass oil into the China dish along with 10 ml of liquid paraffin.
- After melting the bees wax at 70°C on water bath.
- The China dish was removed and placed aside from water bath.
- Next, we mix the borax and rose or distilled water together with a glass rod.
- The mixture is brought to a boil in a water bath until the borax is completely dissolved.
- Then the borax solution is added drop wise in the bee's wax mixture.
- And continuously stir until it gets the semi-solid form.
- Lastly, we got out final product.
- Store it in air tight container.

Evaluation of cream^[18,19,20,21,22]

1. Morphological Evaluation

The table displays the morphological assessment of the cold cream. The mixture was white in colour. The product is perfect for cosmetic formulations because of its pleasant and widely accepted flavour. Texture and smoothness met the needs of the cosmetic formulation.

Morphological parameter	Results
Colour	White
Odour	Pleasant
Texture	Fine, Smooth
Appearance	Semi-solid

2. Wash-ability

To test a washability, a small amount of cream was applied, and the hand was then washed with tap water.

3. Determination of pH

Standard buffer solutions are used to help calibrate the pH metre. The 0.5 gm of cream is dissolved in 50.0 ml of distilled water, and digital pH metres are used to determine the pH.

Ph	6.4
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4. Viscosity

Using Spindle No. 63 at 2.5 RPM and a Brooke field viscometer set to 25°C, the viscosity of the cream was measured. The findings indicated that every formulation exhibited adequate viscosity.

5. Spread ability test

Weight was added to the weighing pan five minutes after the cream sample was applied between the two glass slides and compressed to a uniform thickness using 100 g of weight. The time it took for the top glass slide to cross the bottom slide was used to gauge spread ability.

6. Acid value

10gm of cream should be dissolved in 50ml of an equal volume mixture of solvent ether and alcohol, which has been precisely weighed. After that, put the flask to the condenser and slowly heat it until the sample dissolves

completely. Next, utilise 0.1 N NaOH to titrate 1ml of phenolphthalein until, after shaking for 20 seconds, a light pink colour develops.

7. Irritancy test

On the dorsal surface of the left hand, mark a square centimetre. The time was noted once the cream was applied to the specified area. For up to 24 hours, irritability, erythema, and edema were monitored at regular intervals and reported.

8. After feel

After applying a predetermined amount of cream, the degree of emollience, slipperiness, and amount of residue left after the application were assessed.

RESULT

The cream prepared was found to be of a white in colour had pleasant odour, smooth texture and its in semi-solid form. The pH of cream was found to be 6.4, which is acidic value. It was found that the cream was homogeneous and smooth and consistent in nature. It was discovered that the cream hydrates the surface of human volunteers' skin and is easily disseminated. It was discovered that the cream left the skin's surface with a non-greasy layer. Following examination, it was discovered that the cream did not leave any residue on the skin's surface. No sign of irritancy, erythema, edema after application.

CONCLUSION

A large selection of moisturizers designed for the face, body, hands, or feet are available in the skin care industry, giving customers good, efficient moisturization. Better emulsion technology, more effective distribution of active ingredients, and additional combination possibilities will lead to ever more visually pleasing and clinically efficacious formulations.

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