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PREPARATON AND EVALUATION OF A HERBAL MOISTURIZING CREAM

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1. ABSTRACT

The goal of the study is to create and assess a herbal moisturizing cream that may be used in a variety of climates to protect and hydrate the skin. Aloe vera, calendula, cucumber, tulsi, and other plant extracts with moisturizing, antioxidant, and skin-soothing qualities were used in the formulation of the cream. Because the herbal mixture stayed constant, stable, and effective throughout a range of temperatures and humidity levels, the results verified that it is appropriate as a moisturizer throughout the year. The multi-seasonal herbal moisturizing lotion is a natural and promising alternative to conventional moisturizers that could be used in the cosmetic and dermatological fields.

2. KEYWORDS: Extraction, Drug Multi-Sessional, Herbal Moisturiser.

3. INTRODUCTION

The English word "cosmetics" comes from the Greek word "kosmetikos," which means "skilled in adornment" or "pertaining to dressing." Cosmetics are substances or objects intended to enhance or modify the appearance of the body, face, or fragrance. Cosmetics are defined as any substance that can be applied, rubbed, poured, sprinkled, sprayed, or injected into any area of the human body with the intention of cleansing, beautifying, increasing attractiveness, or altering appearance under the D & C Act of 1940 and its regulations in 1945. This also includes products designed to be used as ingredients in cosmetics. Ayurvedic cosmetic formulations use herbs to enhance appearance and provide protection from the elements. Herbal components used in cosmetics are well known for their positive physiological effects, including mending, smoothing the appearance, boosting, and

conditioning properties. These products contain natural phytoconstituents that have no adverse effects on the body. These products contain a range of botanical ingredients that affect skin functions and provide essential nutrients for healthy skin. Since they come from natural sources and have fewer negative effects, many individuals prefer them to synthetic ones. Cosmetics primarily composed of plant-based ingredients are referred to as natural or botanical cosmetics or herbal cosmetics. Extracts, essential oils, and other substances derived from the fruits, seeds, roots, bark, flowers, and leaves of different plants may be among these constituents. Herbal cosmetics' naturalness and gentleness in comparison to cosmetics made with synthetic chemicals are frequently emphasized in their marketing. Without the use of artificial coloring, fragrances, or preservatives, these products usually offer antibacterial, anti-inflammatory, antioxidant, and moisturizing properties.[1,2,3]

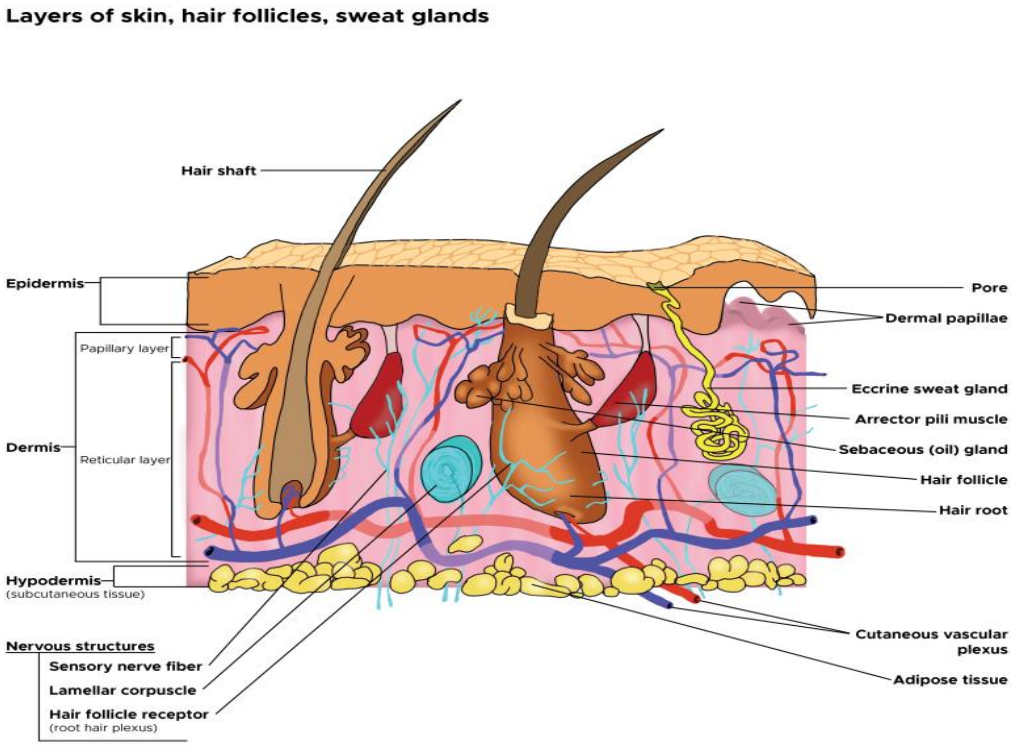


Fig. 1: Layers of skin.

4. Cream

Cream is the name given to a semi-solid emulsion of water and oil. Tiny water droplets dispersed throughout a continuous oily phase make up water-in-oil (W/O) creams, whereas oil-in-water (O/W) creams are composed of tiny oil droplets dispersed throughout a continuous water phase. Water-in-oil creams are also more moisturizing because they form an oily barrier over the stratum corneum, the outermost layer of the skin, which stops water

loss. Creams are a necessary component of daily skincare regimens because they offer benefits that shield the skin from environmental aggressors, support the preservation of skin health, and produce the intended visual effect.[4]

5. Herbal cream

Transepidermal water loss is the term for the regular evaporation of water from the darker layers of the human epidermis. By controlling its water content and preventing itself from drying out and becoming brittle and inflexible, human skin naturally presents a dry, easily shed surface as a barrier against viruses, debris, or injury. It is the lipid bilayer between corneocytes that determines their capacity to hold onto moisture. Moisturizers, whose active ingredients are classified as either occlusives or humectants, change the rate at which water is lost. Occlusives provide a barrier that prevents moisture from escaping the skin's surface. The formulation becomes increasingly occlusive as the effect increases. The occlusiveness of ointments is higher than that of aqueous creams, which are more occlusive than lotions. Water is typically lost through the skin at a rate of 4–8 g/(m²-h). For a few hours, normal skin can use petrolatum to limit that loss by 50–75%. The human body produces hydrating oils naturally in the same way.[5]

6. Herbal ingredients

Common Name	Biological Name/ Family	Part Used	Chemical Constituent	Uses
Green Tea	Camellia sinensin (*Theaceae*)	Leaves	Flavonoids, EpiCreamlocatechie-3-gallate	Anti-oxidants Anti-aging
Aloe vera	Aloe barbadensis (*Asphodelaceae*)	Leaves	Salicylic Acid, Aloesin	Cleansing Antioxidants
Neem	Azadirchata indica (*Meliaceae*)	leaves	Limonoids, Nimbidal, Nimbidin	Antiseptic Antiaging Treats Acne
Turmeric	Curcuma longa (zingiberaceae)	Rhizomes	Curcumin, Demethoxycurcumin, bisdemethoxycurcumin	Hydration Anti-aging soothing

7. Excipients

Ingredients	Uses
Bees Wax	Stabilizer
Niacinamide	Anti-oxidant property
Methyl Paraben	Preservatives
Liquid Paraffin	Lubricating Agent
Rose Oil	Fragrance

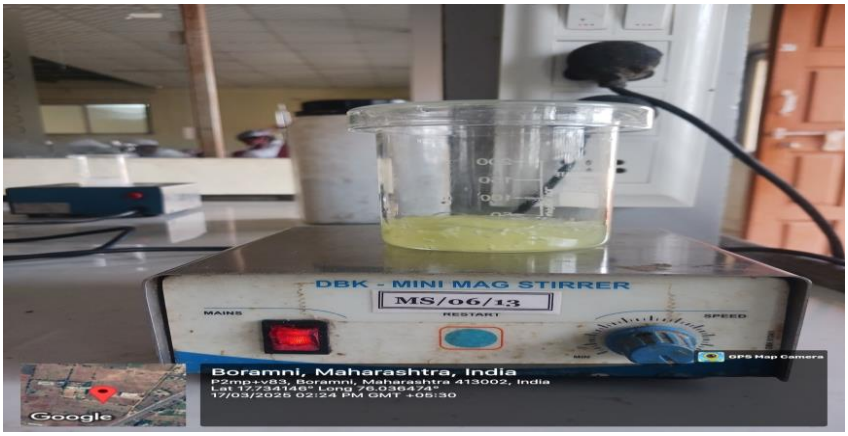
8. Extraction of herbal ingredents

1. Green tea

- 100 g of defatted green tea powder was
- Subjected to Soxhlet extraction using 200 mL of
- Ethanol in an Erlenmeyer flask as solvent. The
- Extraction process was carried out at a temperature
- Ranging from 60-70ºC until the tea powder gets
- completely exhausted.[6]

2. Aloevera extraction

- Cut off the Aloe-Vera leaves
- Aloe-Vera Leaves
- Leaf under Cold water
- Slice off the outer layer
- Scooping the Cream
- Placing the Cream into Mortar to Homogenize it.[7]



3. Extaction of turmeric

- Clean and dry turmeric rhizomes
- Then grind them into a fine powder
- Place the turmeric powdered thimble to Soxhlet extraction
- Using 200 mL ethanol in an Erlenmeyer flask as solvent.
- Extraction process was carried out at a temperature
- Ranging from 60-70ºC until the turmeric powder gets
- Completely exhausted.[8]

4. Extaction of neem

- Collection of Neem leaves
- Washing with water
- Drying under hot air oven
- Addition of water for water extraction
- Stirring
- Filteration & collection of extract.[9]

9. Formulation table

Ingredients	F1	F2	F3
Green tea	2GM	1.5GM	2GM
Aloevera	2GM	2MG	1.5GM
Neem	2GM	1.5GM	1.5GM
Turmeric	0.5GM	0.3GM	0.3GM
Bees wax	3GM	3GM	3GM
Niacinamide	0.5GM	0.5GM	0.5GM
Methyl paraben	3ML	3ML	3ML
Liquid paraffin	6ML	6ML	6ML
Rose oil	2ML	2ML	2ML
Distilled water	QS	QS	QS

10. MATERIALS AND METHODS

Name of instruments	Using for
Soxhlet Apparatus	Extraction of plant materials.
Mechanical stirrer or Magnetic Stirrer	Mix ingredients until they are evenly distributed.
Water Bath	To heat ingredients like methylparaben.
Glass rod	To stir Ingredients.
pH meter	To evaluate Acidity/Alkalinity of Drugs.

11. Base of cream

a) Oil phase

- Weigh Bees wax
- Add into beaker
- Add 15ML liquid paraffin into it
- Heat at 75°C
- Stir continuously

b) Water phase

- Weigh Borax Place in beaker
- Add water in adequate Amount
- Heat up to 75°C
- Added methyl paraben

c) Mix oil phases add water phase

- After heating the Both Beaker Upto 75°C
- Mix slowly by Complete stirring
- Now Add the Herbal extracts with Proper Stirring
- Also add the Rose oil to get a fragrance

- Stir till it becomes a semi-solid dosage from.[10]

12. Qualitative analysis

Test	F1	F2	F3
Homogeneity	Homogeneous	Homogeneous	Homogeneous
Smear type	Non-greasy	Non-greasy	Non-greasy
Colour	Greenish yellow	Yellow	Greenish yellow
Odor	Characteristic	Characteristic	Characteristic
State	Semi-solid	Semi-solid	Semi-solid
Irritancy test	Non-irritant	Non-irritant	Non-irritant
PH	5.7	5.5	5.4

Future scope

1. Growing Interest in Customized Skincare Products • Customers are looking for goods that are more suited to their skin type and environmental circumstances. To satisfy this need, a multiseasonal formulation that adjusts to temperature, humidity, and UV levels can be used. • The chance to use clever or adaptable ingredients (like temperature-sensitive polymers, for example).
2. Worldwide Market Development • Since the weather of different places differs, a cream that is suitable for everybody can be popular worldwide. • Particularly appealing in regions like Europe, the USA, and India with a variety of climates. 3. Sustainable & Natural Substances
3. Plant-based, sustainable, and clean-label ingredients will be prioritized in future formulations. • Bio-adaptive botanicals that adapt to environmental stimuli could be used in multiseasonal creams.

4. Advances in Formulation Science: Using liposomes, nanoemulsions, or intelligent delivery systems to modify moisture levels according to skin requirements. • The potential for hypoallergenic, non-comedogenic creams that are usable all year round.
5. Consumer Convenience & Marketing Advantage • Presenting as an "all-in-one solution" lessens the need for customers to purchase summer and winter goods separately. • Possibility of branding as skincare that is lifestyle-friendly and minimalist.

RESULTS

This study focuses on the development and evaluation of a multi-seasonal herbal moisturizing cream designed to hydrate and protect the skin across different climatic conditions. The cream was formulated using selected herbal extracts known for their moisturizing, antioxidant, and skin-soothing properties, such as aloe vera, Neem, Turmeric, And Green tea**.** The results confirmed that the herbal mixture is suitable as a year-round moisturizer because it remained consistent, stable, and effective in a range of temperatures and humidity levels. A natural and promising substitute for traditional moisturizers, the multi-seasonal herbal moisturizing lotion may find use in the dermatological and cosmetic industries.

CONCLUSION

Natural elements, a herbal moisturizing lotion was successfully created and tested. by using green tea, neem, aloe vera, and turmeric and excipients. The cream has the most effective moisturizing effect, and each of the herbal ingredients employed demonstrated a distinct significant activity. Based on the results, we can say that the F3 formulation is stable at room temperature and safe to apply topically. Therefore, the assertion suggests that F3 is a better formulation than F1 and F2. The resulting herbal cream was pale green in colour and had a silky consistency. comfortable aroma and semisolid state. Because it was created using simple materials and an uncomplicated technique, the cream is also cost-effective.

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