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FORMULATION OF A HERBAL AFTER-SHAVE LOTION WITH COOLING EFFECTS OF MENTHOL AND ALOE VERA

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ABSTRACT

The growing demand for safe, skin-friendly, and environmentally friendly beauty products is driving a shift from traditional alcohol-based aftershave lotions to botanical formulations. Although traditional aftershave has antiseptic properties, it often contains high concentrations of alcohol and synthetic additives, which can cause irritation, dryness, erythema, and micro-abrasions of the skin, especially in people with sensitive skin. In response to these concerns, this study focused on the development and evaluation of herbal aftershave lotions that incorporate natural ingredients with proven dermatological benefits.

The main objective of this study was to develop a stable, effective and skin-compatible herbal aftershave lotion using herbal ingredients. Particular attention was paid to the combination of menthol and aloe vera due to their well-documented pharmacological properties. Menthol, derived from peppermint oil, was used for its immediate cooling, soothing, and mild analgesic effects, while aloe vera (Aloe barbadensis) was chosen for its moisturizing, anti-inflammatory, and healing properties. Other optional herbs such as neem extract, witch hazel, chamomile, and tea tree oil are thought to enhance antibacterial and therapeutic effects.

INTRODUCTION

Shaving is a widely practiced grooming routine for men and is becoming more popular among women as well. However, it frequently results in skin irritation, redness, micro-cuts, and dryness. Consequently, after-shave products are used to calm, disinfect, hydrate, and safeguard the skin post-shaving.

Traditional after-shave lotions typically include alcohol and synthetic chemicals that can lead to excessive dryness and irritation, particularly for those with sensitive skin. This has sparked a growing interest in herbal and natural formulations, which provide safer and more skin-friendly options.

Herbal after-shave lotions incorporate plant-based ingredients recognized for their anti-inflammatory, antimicrobial, cooling, and moisturizing benefits. Notably, menthol and aloe vera are commonly utilized for their remarkable soothing and cooling properties.

Objective

To create a herbal after-shave lotion utilizing natural components

To include menthol for an immediate cooling effect To employ aloe vera for moisture and skin repai

To assess the physical, chemical, and stability characteristics of the formulation To design a product that is safe, effective, and gentle on the skin

3. Benefits of Herbal After-Shave Lotion

* Free from harmful synthetic substances
* Minimizes skin irritation and allergic responses
* Environmentally friendly and biodegradable
* Appropriate for sensitive skin types
* Offers natural scent and therapeutic advantages
* Promotes skin healing and nourishment

4. Optimal Features of After-Shave Lotion

- An optimal after-shave lotion should:
- Deliver immediate cooling and soothing sensations
- Exhibit antimicrobial characteristics
- Be gentle and non-greasy
- Quickly penetrate the skin
- Preserve skin moisture
- Feature a delightful scent
- Remain stable under storage conditions

5. Selection of Ingredients

5.1 Menthol

Source: Derived from peppermint oil Function: Cooling agent

Properties:

Delivers an immediate cooling effect Alleviates irritation and itching Exhibits a mild analgesic property

5.2 Aloe Vera

Botanical name: Aloe barbadensis Function: Moisturizer and healing agent Properties:

Moisturizes the skin Facilitates wound healing Has anti-inflammatory effects Calms razor burns

5.3 Other Herbal Ingredients

Neem extract – possesses antimicrobial properties Witch hazel – serves as an astringent

Chamomile – known for its anti-inflammatory qualities Tea tree oil – functions as an antiseptic.

Formulation Table

Ingredient	Quantity (%)
Menthol	0.5-1
Aloevera gel	20-30
Glycerin	5
Ethanol	10-15
Distilled water	qs to 100
Carbapol	0.5
Preservative	0.2
Essential oil	0.5
Triethanolamine	q.s

Method of Preparation

Step 1: Preparation of Base Dissolve carbopol in distilled water Stir continuously to avoid lump formation.

Step 2: Preparation of Active Phase Dissolve menthol in ethanol Mix glycerin and aloe vera gel.

Step 3: Mixing Slowly add active phase into base Stir continuously

Step 4: Neutralization Add triethanolamine to adjust pH Gel formation occurs

Step 5: Addition of Preservative and Fragrance Add essential oils and preservatives

Step 6: Final Adjustment Adjust volume with distilled water Mix thoroughly

Preparation of formulations

In formulations F0 and F1, menthol was added to the alcohol Then add water. Added Carbopol 934 Add solution and shake vigorously to fully disperse Carbopol. Triethanolamine was added drop wise by lowering the agitator speed to obtain the gel of required consistency. Finally, perfume was added to the gel and mixed well. with F2 Prescription menthol dissolved in alcohol, 50 mg/ml Ethanol extract of Hemigraphis colorata (formerly known as (changes color with activated carbon) Added. a pinch Citric acid was added to adjust the pH to Carbopol as above. Solution before adding triethanolamine. (*Decolorization procedure: activated carbon) It is heated, smoked, and has menthol added to it. Add alcohol, Hemigraphis colorata extract and heat again. filtered

Evaluation of gel composition

Sensory properties and uniformity were observed. By visual inspection. Estimated sand quality microscopically. pH of 1% aqueous solution .The composition was measured using a calibrated digital pH meter. constant temperature meter. The viscosity of the gel was determined using a Brookfield viscometer. The prevalence wasdetermined by the parallel plate method. For antibacterial studies, test microorganisms were prepared compared to the McFarland standard antibacterial The activity of some preparations against Bacillus subtilis and Pseudomonas aeruginosa was tested using well agar Diffusion method. in a sterile petri dish 30 ml of culture solution with an inner diameter of 8 mm was injected. Uniform thickness of interlayer in different the plates were carefully checked. The agar plates were left harden. An 8 mm diameter sterile drill was used for each plate.

Cut equidistant wells. Plate was seeded with 50µl Bacterial suspensions were prepared and compared with 0.5. Dry using McFarland standard. There was a well Fill each of the six plates with 0.3 g of the prepared compound. Both tissues were run three times. Using a commercially available aftershave formulation as standard, Microorganisms exist as gaps in the remaining plates. The plate is Incubate for 30 min to allow pre-diffusion. The plate is Incubate for 48 hours at 37°C. Upon their return to antibacterial activity was evaluated at room temperature by measuring the diameters of the braking zones (in mm).

Evaluation Criteria

9.1 Visual Characteristics Hue

Scent Feel

9.2 pH Assessment

Optimal pH: 5.5–7

9.3 Thickness

Assessed with a viscometer

9.4 Applicability

Evaluates the ease of application

9.5 Chilling Sensation Sensory assessment

9.6 Durability Analysis Kept at various temperatures

Monitored for phase separation

CONCLUSION

In conclusion, the development of herbal aftershave lotions utilizing natural ingredients like menthol and aloe vera presents a promising alternative to traditional alcohol-based products, effectively addressing skin irritation and promoting healing while being environmentally friendly. This shift not only caters to the growing demand for safer beauty products but also highlights the potential of botanical formulations in enhancing skin health post-shaving.The shift towards herbal aftershave lotions underscores a growing consumer preference for safe, effective, and environmentally friendly grooming products that minimize skin irritation and promote healing. By harnessing the natural benefits of ingredients like menthol and aloe vera, these formulations not only cater to sensitive skin but also represent a significant advancement in post-shaving care.

REFERENCE

1. Pawar KD et al. Formulation and evaluation of natural cooling lotion with menthol and aloe vera, IJAESM, 2025
2. Rathi N, Sirsat S. Formulation and standardization of herbal lotion, IJNRD, 2022
3. Jadhav AG et al. Formulation and evaluation of herbal lotion, IJIRCT, 2024.
4. Tiwari S et al. Pharmaceutical assessment of herbal body lotion, IJPS, 2023.
5. Verma H et al. Formulation of aloe vera lotion, SAJB, 2020.
6. Banerjee D et al. Herbal lotion formulation review, IJHS, 2022.
7. Singh J et al. Polyherbal body lotion formulation, MEJAST, 2024.

8. Francis CM et al. Herbal aftershave gel formulation, JIAPS, 2023.
9. IMC After Shaving Lotion composition and benefits.
10. Sharma PP. Cosmetics Formulation, Manufacturing and Quality Control.
11. Barel AO. Handbook of Cosmetic Science and Technology.
12. Butler H. Poucher's Perfumes, Cosmetics and Soaps.
13. Draelos ZD. Cosmetic Dermatology.
14. Rang HP. Pharmacology (Skin applications).
15. Kokate CK. Pharmacognosy.
16. Trease and Evans Pharmacognosy.
17. Remington: The Science and Practice of Pharmacy.
18. Indian Pharmacopoeia (Topical Preparations section).
19. WHO Guidelines on Herbal Cosmetic Products