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Research Article

Formulation and Evaluation of Herbal Anti-itching Cream

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ABSTRACT

Skin itching (pruritus) is a common dermatological issue that can be triggered by dryness, allergies, infections, or environmental factors. This project focuses on the formulation and evaluation of an herbal anti-itching cream using natural ingredients known for their therapeutic properties. The selected components lavender oil, aloe vera gel, shea butter, bees wax, sunflower oil, and coconut oil are recognized for their anti-inflammatory, soothing, moisturizing, and antimicrobial effects. Methylparaben is included as a preservative to maintain the product's stability. The prepared cream was evaluated for physical appearance, pH, spreadability, viscosity, stability, and skin compatibility. The results indicated that the formulation was stable, non-irritant, and effective in relieving mild to moderate itching, making it a promising alternative to synthetic anti-pruritic creams.

INTRODUCTION

The skin, being the largest organ of the human body, serves as a crucial barrier against external aggressors such as pathogens, allergens, and environmental pollutants. Despite its protective functions, the skin is highly susceptible to a wide range of conditions, with itching (pruritus) being one of the most common and uncomfortable symptoms. Itching may result from several underlying causes, including dryness, allergic reactions, insect bites, infections, or chronic skin

disorders like eczema and dermatitis. When prolonged or severe, it can significantly affect a person's quality of life, often leading to excessive scratching, which may cause damage, secondary inflammation, and infections. Conventional anti-itching treatments typically rely on synthetic corticosteroids, antihistamines, or local anesthetics, which may offer quick relief but can also cause undesirable side effects such as skin thinning, irritation, hypersensitivity, and longterm dependency with frequent use. In recent years, there has been a growing interest in herbal

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and natural alternatives that are safer, more sustainable, and better tolerated by the skin. Herbal formulations incorporate plant-derived ingredients known for their anti-inflammatory, moisturizing, antimicrobial, and healing properties, offering a holistic approach to managing skin irritation. This project aims to formulate and evaluate an herbal anti-itching cream utilizing a blend of naturally beneficial ingredients: lavender oil, aloe vera gel, shea butter, sunflower oil, coconut oil, beeswax, and methylparaben as a preservative. Each ingredient in this formulation has been carefully selected based on its traditional and pharmacological significance in skin care:

- Lavender Oil is known for its antiinflammatory, antiseptic, and soothing effects. It helps reduce itching caused by skin irritants, minor burns, or insect bites and also imparts a calming fragrance to the cream.
- Aloe Vera Gel is widely recognized for its hydrating, cooling, and wound- healing properties. It helps to calm irritated skin, reduce inflammation, and assist in the repair of damaged skin tissues
- Shea Butter, rich in fatty acids and vitamins A and E, acts as a natural emollient. It nourishes and softens the skin, making it particularly effective in combating drynessinduced itching

- **Sunflower Oil** contains high amounts of linoleic acid, which helps maintain the skin's moisture barrier and has anti-inflammatory properties. It is non- comedogenic and suitable for sensitive skin.
- **Coconut Oil** has been used traditionally for its antibacterial, antifungal, and moisturizing benefits. It soothes the skin and helps prevent infections in areas where itching has caused microtears or scratches.
- **Beeswax** plays a crucial role in this formulation as a natural thickening agent and skin protectant. It forms a breathable barrier on the skin's surface, locking in moisture while shielding the skin from external irritants. It also adds consistency to the cream, improving its texture and spreadability.
- **Methylparaben**, though synthetic, is used in minimal and safe concentrations as a preservative to prevent microbial contamination and ensure the product's longevity.

The formulation process involves combining these ingredients into a stable cream base, followed by comprehensive evaluation through parameters such as appearance, pH, viscosity, spreadability, stability studies, and skin irritation tests. The aim is to ensure the final product is not only effective in relieving itching but also safe, non-irritating, and cosmetically acceptable for regular use.

Ingredient	Concentration (%)
Lavender Oil	2.5%
Sunflower Oil	15%
Shea Butter	20%

Table No 1. Ingredients of Herbal Anti-Itching Cream



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Coconut Oil	20%
Aloe Vera Gel	25%
Bees Wax	15%
Methyl Paraben	0.5%

PROCESS OF FORMULATION

Preparation of Raw Materials:

Aloe vera gel: Extracted fresh or used as a commercially available pure gel. Beeswax, shea butter, coconut oil,

Sunflower oil: measured accurately and kept ready.

Lavender oil: Measured and kept aside for addition during the cooling stage.

Methylparaben: Used as a preservative, dissolved in a small amount of warm distilled water.

Preparation of Oil Phase:

Beeswax, shea butter, coconut oil, and sunflower oil were taken in a beaker. Heated to 70–75°C using a water bath until completely melted and mixed into a uniform oily phase.

Preparation of Aqueous Phase:

Aloe vera gel was taken in a separate beaker. Methylparaben solution was added to the gel and mixed thoroughly. The aqueous phase was also heated to $70-75^{\circ}$ C to match the oil phase temperature.

Emulsification:

The heated aqueous phase was gradually added to the oil phase with continuous stirring using a mechanical stirrer or homogenizer. Stirring was continued for 15–20 minutes to form a stable oilin-water (O/W) emulsion.

Cooling and Addition of Essential Oil:

The cream was allowed to cool slowly to about 40°C while stirring gently.Lavender oil was then added to the cream and stirred to ensure uniform distribution.

Packaging:

The finished cream was filled into clean, sterilised containers or tubes. The containers were sealed, labelled, and stored in a cool, dry place for further evaluation.

COMPOSITION OF FORMULATION

Ingredients	F1 (15gm)	F2 (20gm)	F3 (25gm)	F4 (30gm)	F5 (35gm)
Shea butter	3.0	4.0	5.0	6.0	7.0
Bees wax	2.25	3.0	3.75	4.5	5.25
Coconut oil	3.0	4.0	5.0	6.0	7.0
Sunflower oil	2.25	3.0	3.75	4.5	5.25

Table No. 2. From above all the formulas f1 f2 f3, f4, and f5 , we considered f2 as a standard, because it has a better result than the others. So, we perform the evaluation on f2, i.e 20 gm



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Aloe vera Gel	3.75	5.0	6.25	7.5	8.75
Lavender oil	0.375	0.5	0.625	0.75	0.875
Methyl paraben	0.075	0.1	0.125	0.15	0.175

Evaluation test results

FORMULATION	1 Day	2 Day	3 Day
Appearance	Cream like	Cream like	Cream like
Colour	Off White	Off White	Off White
Homogeneity	Uniform and homogenous	Uniform and homogenous	Uniform and homogenous
Consistency	Good	Good	Good
Texture	Smooth	Smooth	Smooth

Table No. 3: Physical Parameters

WASHABILITY

The portion of cream was applied over the skin of hand and allowed to flow under the force of

flowing tap water for 15 minutes. The time when the cream was completely removed was noted.

Table No.4: Washability

FORMULATION	TIME	RESULT
1	20 SEC	GOOD
2	25 SEC	GOOD
3	30 SEC	GOOD

SKIN SENSITIVITY TEST

The portion of cream was applied on hands and left for 15,30,40 minutes and after that result was noted.



Fig No 1. Skin Sensitivity Test



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FORMULATION	TIME	RESULT
1	15 mins	No irritation
2	30 mins	No irritation
3	40 mins	No irritation

Table no	5.skin	sensitivity	test
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PH

Determination of cream pH was measured with an using Litmus paper. Red litmus paper turn into blue then the formulation is basic and the blue litmus paper turn into red then the formulation is acidic.

Table no 5.pH RANGE

Test Parameter	Observation/Result
pH Range	5.5 – 6.0 (Ideal and Skin-friendly)

Result: The pH was found to be in the range of 5.5 to 6.0, which is considered ideal and skin-friendly.

CONCLUSION

The formulation herbal anti-itching cream has been produced successfully and it is safe, effective, and skin-compatible topical preparation. The synergistic action of natural ingredients such as Aloe vera, lavender oil, sunflower oil, coconut oil, shea butter, and beeswax contribute to the cream's anti-itching, antimicrobial, and soothing properties.Due to its natural origin and minimal side effects, this formulation may serve as a suitable alternative to conventional chemicalbased anti-itching creams, especially for individuals with sensitive skin.Further clinical evaluation and scale-up studies are recommended establish long-term efficacy, to consumer acceptability, and potential for commercialization.

CONFLICT OF INTEREST:

Regarding this investigation, the authors have no conflicts of interest.

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REFERENCES

- Surjushe, A., Vasani, R., & Saple, D. G. (2008). Aloe vera: A short review. Indian Journal of Dermatology, 53(4), 163–166. https://doi.org/10.4103/0019-5154.44785
- Cavanagh, H. M. A., & Wilkinson, J. M. (2002). Biological activities of lavender essential oil. Phytotherapy Research, 16(4), 301–308. https://doi.org/10.1002/ptr.1103
- Danby, S. G., AlEnezi, T., Sultan, A., Lavender, T., Chittock, J., & Brown, K. (2008). Effect of olive and sunflower seed oil on the adult skin barrier: Implications for neonatal skin care. Pediatric Dermatology, 25(2), 123–128. https://doi.org/10.1111/j.1525-1470.2008.00633.x
- Verallo-Rowell, V. M., Dillague, K. M., & Syah-Tjundawan, B. S. (2008). Novel antibacterial and emollient effects of coconut and virgin coconut oils in atopic dermatitis. Dermatitis, 19(6), 308–315.
- Loden, M. (2003). The clinical benefit of moisturizers. Journal of the European Academy of Dermatology and Venereology, 17(6), 633–638.



https://doi.org/10.1046/j.1468-3083.2003.00890.x

- Tiwari, S., Singh, S., Tiwari, S. K., & Mishra, A. (2011). Pharmaceutical and cosmetic uses of beeswax: A review. International Journal of Pharmaceutical and Life Sciences, 2(11), 1281–1284.
- Agero, A. L., & Verallo-Rowell, V. M. (2004). A randomized double-blind controlled trial comparing extra virgin coconut oil with mineral oil as a moisturizer for mild to moderate xerosis. Dermatitis, 15(3), 109–116.
- Proksch, E., Brandner, J. M., & Jensen, J. M. (2008). The skin: An indispensable barrier. Experimental Dermatology, 17(12), 1063– 1072.
- Hegde, S., Kumar, A., & Vaibhavi, P. (2017). Formulation and evaluation of herbal antiitching cream. World Journal of Pharmaceutical and Medical Research, 3(6), 144–147.
- Vats, A., & Sharma, P. (2012). Formulation and evaluation of topical anti-acne formulation of coriander extract. International Journal of Pharmaceutical Sciences Review and Research, 16(12), 97–103.
- Ghodke, S. K., Bagwan, L. R., et al. (2021). Research of formulation and evaluation of anti-acne gel. International Journal of Creative Research Thoughts, 649–665.
- Mahmood, T., Akhtar, N., & Khan, B. A. (2010). The morphology, characteristics, and medicinal properties of Aloe vera: A review. International Journal of Plant Sciences, 1(2), 274–279.
- 13. Koulivand, P. H., Ghadiri, M. K., & Gorji, A. (2013). Lavender and the nervous system. Evidence-Based Complementary and Alternative Medicine, 2013, Article ID 681304. https://doi.org/10.1155/2013/681304
- 14. Lin, T. K., Zhong, L., & Santiago, J. L. (2018). Anti-inflammatory and skin barrier

repair effects of topical application of some plant oils. International Journal of Molecular Sciences, 19(1), 70. https://doi.org/10.3390/ijms19010070

- 15. Nayak, B. S., & Pereira, L. P. (2006). Catharanthus roseus flower extract has wound-healing activity in Sprague Dawley rats. BMC Complementary and Alternative Medicine, 6(1), 41.
- 16. Wilson, D. R., & Mills, J. G. (2005). Natural plant oils as moisturizers. Cosmetics & Toiletries, 120(11), 45–51.
- 17. Shinde, P. R., Saudagar, R. B., & Ajay, K. (2017). Formulation and evaluation of polyherbal anti-inflammatory cream. Asian Journal of Pharmaceutical Research and Development, 5(3), 11–16.
- Tiwari, R., Tiwari, G., & Srivastava, B. (2010). Herbal cosmetic: A comprehensive review. International Journal of Pharmaceutical Research, 2(3), 31–39.
- Khullar, R., Saini, S., Seth, N., & Rana, A. C. (2011). Formulation and evaluation of herbal anti-acne gel. International Journal of Pharmacy and Pharmaceutical Sciences, 3(5), 61–63.
- 20. Nasir, A., & Shad, M. A. (2020). Recent advances in the formulation of herbal creams and lotions: A review. Research Journal of Pharmacy and Technology, 13(10), 4943–4950. https://doi.org/10.5958/0974-360X.2020.00865.5
- 21. Jadhav, D. S., & Pawar, A. Y. (2020). A review on beeswax and its application in cosmetics and pharmaceuticals. Journal of Pharmacognosy and Phytochemistry, 9(3), 2445–2449



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