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#### **Research Paper**

# **Formulation and Evaluation of Herbal Foot Cream**

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#### ABSTRACT

The human foot plays an essential yet often overlooked role in supporting overall body function and mobility. Despite this, they are frequently neglected in regular self-care routines, leading to common problems like cracked heels. These can cause significant discomfort and may even lead to infections if left untreated. Recognizing this issue, our primary aim was to formulate an herbal foot crack cream designed to promote healing while offering antibacterial and antimicrobial protection. The cream was developed using a carefully selected blend of anti-inflammatory herbal ingredients known for their skin-repairing properties. Comprehensive evaluation parameters and tests were conducted to assess the cream's safety, stability, and overall effectiveness. The results confirmed that the formulation is not only safe for regular use but also highly effective in treating dry, cracked heels. After fifteen days of consistent application, users experienced noticeable healing and improved skin condition, validating the efficacy of the herbal cream in real world use.

### **INTRODUCTION**

### FOOT CREAM

Herbal Foot Cream is the most advanced natural solution to treat dry and cracked feet, addressing a problem that affects millions of people worldwide. Our feet are the workhorses of our body, bearing our weight and enduring constant stress, yet they are often the most neglected part of our personal care routine. The skin of the feet contains five distinct layers - stratum Basale, stratum spinosum, stratum granulosum, stratum lucidum, and stratum corneum - which make it unique and sensitive. unlike other parts of the body, the skin of the feet becomes dry and feels uncomfortable and painful because it lacks oil glands. This natural deficiency makes feet prone to cracking, roughness, and painful fissures that can impact a person's daily comfort and mobility. Traditional synthetic creams often come with a host of side effects and harsh chemicals that can further irritate sensitive skin.

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Our herbal foot cream is meticulously engineered with advanced natural formulations to effectively treat and prevent dry, cracked skin on the heels. We understand that foot care is not just about appearance, but about overall foot health and personal comfort. Unlike synthetic products that may cause burning, stinging, redness, or irritation, our natural approach focuses on healing and protecting. The cornerstone of our formula is aloe vera extract, a miraculous ingredient containing 75 active components. Aloe vera is renowned for its soothing, healing, and moisturizing properties. We use only natural products, eliminating artificial chemicals that can harm your skin. Our commitment is to provide a safe, effective, and gentle solution to foot care. Imagine walking without discomfort, feeling the softness of your feet, and experiencing true foot wellness. That's the promise of our herbal foot cream - a natural path to healthy, happy feet.



Fig No.1: foot care routine funnel

#### **Cracked Feet**

Cracked feet, a widespread foot condition medically known as heel fissures, represent a complex dermatological issue that extends beyond mere cosmetic concern. These painful skin splits typically emerge from a combination of environmental, lifestyle, and physiological factors. Individuals who spend prolonged periods standing, frequently walk barefoot, or habitually wear open-back footwear are particularly susceptible to developing this condition. The skin on the heels becomes progressively dry and thickened, creating an environment prone to cracking and potential discomfort. From an Ayurvedic perspective, cracked feet, known as Padayatra, are understood through the lens of bodily energy imbalances. The condition is characterized by excessive dryness (Rukhsana) and skin roughness (Khara), which Ayurvedic practitioners attribute to imbalances in the Vata dosha. This holistic approach views the condition not just as a localized skin problem but as a manifestation of broader physiological and energetic disharmonies within the body. Recent studies have demonstrated the remarkable potential of these natural ingredient-based treatments. Herbal creams containing these components offer multiple therapeutic benefits, including moisturization, anti-inflammatory action, and enhanced skin healing capabilities. By combining traditional botanical knowledge with contemporary research methodologies, these formulations provide a compelling natural



alternative synthetic topical treatments, to minimizing the risk of adverse potentially associated reactions with chemical-based products. The management of cracked feet requires a multifaceted approach that addresses both external symptoms and underlying causes. Preventive strategies include maintaining proper foot hygiene, using moisturizing agents regularly, wearing appropriate footwear, and managing any concurrent medical conditions. For individuals experiencing persistent or severe cracked feet, consulting healthcare professionals can help develop personalized treatment plans that may incorporate both conventional medical interventions and complementary approaches like Ayurvedic treatments. Traditional Ayurvedic treatments emphasize external healing through carefully crafted herbal formulations designed to restore moisture and promote skin healing. These

approaches leverage the therapeutic properties of natural ingredients, recognizing their potential to address the root causes of skin dryness and cracking. Modern scientific research has increasingly validated these traditional practices, exploring herbal cream formulations that incorporate ingredients like Aloe vera, beeswax, cocoa butter, and ginger. The evolution of foot care treatments reflects a growing appreciation for holistic health principles that prioritize natural healing mechanisms. By integrating traditional modern scientific wisdom with research. healthcare practitioners and researchers continue to develop more effective, gentle, and sustainable solutions for managing conditions like cracked feet. This approach not only addresses immediate symptoms but also promotes long-term skin health and overall well-being.



Fig No.2: Crack Foots

### MATERIALS AND METHODS: -

Here is the standard preparation method for the formulation of foot cream:

Sr no.	Ingredient	F1	F2	F3
1.	Aloe vera juice	3ml	2.5ml	2ml
2.	Almond oil	3ml	4ml	3ml
3.	Beeswax	4gm	4gm	4gm
4.	Coconut oil	3ml	2ml	2ml
5.	Glycerine	2ml	3ml	2ml
6.	Lavender oil	3ml	2.5ml	5ml
7.	Rose water	1ml	1ml	1ml
8.	Rosemary oil	1ml	1ml	1ml



#### Phase 1: Oil Phase

- Take 4 gm beeswax, 3 ml almond oil, and 2 ml coconut oil in a clean, dry beaker.
- Heat the mixture in a water bath at a temperature of 65–70°C.
- Stir gently until the beeswax melts completely and blends with the oils, forming a clear, uniform solution. Remove from heat once melted.



Fig No. 3: Oil Phase

#### **Phase 2: Water Phase**

- In another clean beaker, combine 2 ml aloe vera extract, 1 ml rose water, and 2 ml glycerin.
- Heat the mixture in a water bath at a temperature of 50–55°C.
- Ensure the solution is well mixed and reaches the desired temperature. Remove from heat.
  Phase 3: Active Ingredients Phase
- Slowly add the heated water phase (Phase 2) into the oil phase (Phase 1) while stirring continuously to ensure proper emulsification.
- Continue stirring until a smooth, creamy emulsion forms.
- Once the emulsion forms, let the mixture cool to around 40°C.
- Add 5 ml lavender oil and 2 ml rosemary oil to the cooled mixture, stirring thoroughly ensure uniform distribution.



Fig No.4: Oil mixing

#### **Final Steps:**

- Allow the cream to cool completely to room temperature while stirring occasionally to prevent separation.
- Transfer the prepared foot cream into a clean, sterilized container and store it properly.



Fig No.5: Final Result

### **RESULT AND DISCUSSION:**

#### The herbal foot crack cream showed:

1. Better moisturization: Skin hydration levels significantly increased.

2. Increased skin elasticity: Less cracking and more flexibility in the skin.

3. Less discomfort: Dry, cracked feet no longer cause as much pain or itching.

4. Good washability and spreadability: Simple to apply and take off.

5. Appropriate pH and viscosity: Near the pH of skin and a pleasant consistency.

Parameters	Batches			
	F1	F2	F3	
Appearance	Good	Good	Good	
pН	4.5	5.1	5.5	
Spreadability	Fair	Better	Good	
Washability	Washable	Washable	Washable	
Viscosity	1811.0 cp	1811.0 cp	6758.3 cp	
Homogeneity	Homogenous	Homogenous	Homogenous	
Emulsion type	w/o	w/o	w/o	

We found that F3 Batch is our optimised batch so we choose F3 batch for further evaluation.

### **CONCLUSION: -**

From this work, we conclude that herbal foot cream have Hydrating, Nourishing, and Curing dry, cracked heels, the foot cream initiative highlights the significance of foot care. Ingredients in the formulation have been carefully chosen to guarantee both efficacy and safety. The product's moisturizing and healing qualities have been assessed through testing and research, making it appropriate for frequent usage. This foot cream treats common foot-related problems and provides an accessible and reasonably priced skincare



solution. It is a useful complement to everyday personal care routines because of its calming and protecting properties, which improve foot health. The project effectively illustrates how this composition may enhance general foot health.

### REFERENCES

- 1. Denkler, K.A. and Denkler, C., 2015. The direction of optimal skin incisions derived from striae distensae. Plastic and Reconstructive Surgery, 136(1), pp.120e-121e.
- 2. Schlader, Z.J. and Vargas, N.T., 2019. Regulation of body temperature by autonomic and behavioral thermoeffectors. Exercise and sport sciences reviews, 47(2), pp.116-126.
- Patil, V.V., Thorat, Y.S., Kote, N.S. and Hosmani, A.H., 2020. Formulation and Evaluation of Crack Cream from Plant Extracts. Int. J. Curr. Pharm. Res, 12, pp.130-132.
- Muñoz OM, Leal X, Quitral V, Cardemil L. Extraction, characterization and properties of the gel of burn plant (Aloe barbadensis miller) cultivated in chile. Med Aromata Plants 2015; 4:3.
- 5. Ahmed, S., Ahmad, M., Swami, B.L. and Ikram, S., 2016. Green synthesis of silver nanoparticles using Azadirachta indica aqueous leaf extract. Journal of radiation research and applied sciences, 9(1), pp.1-7.
- Herskovitz, I., Macquhae, F., Fox, J.D. and Kirsner, R.S., 2016. Skin movement, wound repair and development of engineered skin. Experimental dermatology, 25(2).
- Board, P.C.G.E., 2024. Genetics of Hereditary Hematologic Malignancies (PDQ®). In PDQ Cancer Information Summaries [Internet]. National Cancer Institute (US).

- Wohlrab, J., Hilpert, K. and Wolff, L., 2016. Epidermal aging and anti-aging strategies. Der Hautarzt, 67, pp.107-111.
- 9. Fenner, J. and Silverberg, N.B., 2018. Skin diseases associated with atopic dermatitis. Clinics in Dermatology, 36(5), pp.631-640.
- 10. Hall, B.K., 2018. Germ layers, the neural crest and emergent organization in development and evolution. Genesis, 56(6-7), p. e23103.
- Losquadro, W.D., 2017. Anatomy of the Skin and the Pathogenesis of. Facial Reconstruction Post-Mohs Surgery, An Issue of Facial Plastic Surgery Clinics of North America, 25(3), p.283.
- 12. Karim, N., Phinney, B.S., Salemi, M., Wu, P.W., Naeem, M. and Rice, R.H., 2019. Human stratum corneum proteomics reveals cross - linking of a broad spectrum of proteins in cornified envelopes. Experimental dermatology, 28(5), pp.618-622

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