



Review Article: Herbal Foot Crack Cream – A Natural Solution for Cracked Heels

Mohit Upadhyay, Revathi A Gupta, Archana Pachore

Institute of Pharmacy, Dr. A.P.J. Abdul Kalam University, Indore

ABSTRACT

Cracked heels, a common dermatological issue, occur due to dryness, mechanical stress, and insufficient foot care. These fissures may lead to pain, infections, and impaired mobility. While conventional treatments often include chemical-based moisturizers and steroidal creams, they can cause adverse effects with prolonged use. This review highlights the development and evaluation of a herbal foot crack cream formulated with natural, plant-derived ingredients such as coconut oil, camphor, and candle wax. These components demonstrate moisturizing, antimicrobial, anti-inflammatory, and healing properties, making them suitable for foot care applications. The review also incorporates comparative insights from similar herbal formulations and underscores the role of herbal cosmetics as effective, safe, and affordable alternatives in dermal therapy.

1. Introduction

Cracked heels, or heel fissures, represent a widespread concern, especially in individuals with dry skin, prolonged standing habits, poor hygiene, or metabolic disorders like diabetes and hypothyroidism. The condition primarily results from the absence of sebaceous (oil) glands in the foot, making the area prone to dehydration and keratin buildup. If left untreated, fissures can deepen, bleed, and become entry points for pathogenic microbes.

Over-the-counter synthetic products often provide temporary relief but may include preservatives, artificial fragrances, and steroids that can irritate sensitive skin. Thus, herbal foot crack creams have emerged as holistic solutions due to their biocompatibility, low toxicity, and therapeutic value rooted in Ayurvedic and natural medicine systems.

2. Mechanism of Action and Key Ingredients

Coconut Oil (Cocos nucifera): Rich in medium-chain fatty acids and vitamin E, it enhances hydration and skin barrier function. Exhibits antimicrobial and anti-inflammatory properties. Promotes skin regeneration and soothes inflamed tissues.

Camphor (Cinnamomum camphora): Functions as an analgesic, antiseptic, and circulation stimulant. Relieves itching, irritation, and minor pain. Enhances local blood flow and acts as a counter-irritant, promoting healing.

Candle Wax (Paraffin or Beeswax): Forms a protective occlusive barrier, locking in moisture. Provides thickening to cream formulations. Supports softening of callused skin and prevents water loss.

Together, these ingredients work synergistically to moisturize and soften dry, cracked skin, repair fissures by promoting tissue regeneration, protect against microbial infections, and soothe inflamed or irritated skin.

3. Evaluation Parameters of Herbal Foot Cream

The formulated cream underwent a series of standard dermatological and pharmaceutical assessments:

- pH Measurement: Ideal for skin application (pH ~6.8–7.2)
- Texture & Homogeneity: Smooth, non-gritty, uniform consistency
- Smear Type: Non-greasy yet emollient
- Irritancy Test: No signs of erythema, rash, or edema observed
- Stability Study: Maintained integrity and efficacy over 14 days at room temperature

- Spreadability & Washability: Easy to apply, absorb, and rinse

These results confirmed that the herbal cream is stable, safe, and user-friendly for routine foot care.

4. Advantages of Herbal Formulations

Compared to conventional synthetic creams, herbal formulations offer distinct advantages:

- Biodegradable and non-toxic: Gentle on the skin and environment.
- No synthetic additives: Free from parabens, synthetic dyes, and harmful preservatives.
- Multifunctional: Provide moisturizing, anti-inflammatory, antimicrobial, and antioxidant effects.
- Cost-effective and sustainable: Plant-based materials are more accessible and eco-friendly.

Such formulations also cater to the rising consumer demand for clean-label and natural personal care products.

5. Comparative Insights from Literature

The reviewed cream aligns with findings from numerous studies:

- Nisha Umesh et al. (2024): Used Eagle Marvels extract for its antimicrobial and healing benefits.
- Saibhavana N. et al. (2024): Evaluated formulations with neem, manjistha, and licorice, showing positive hydration and antifungal effects.
- Sushmita et al. (2024): Developed a blend with aloe vera, almond oil, and rosemary, emphasizing skin rejuvenation.
- Pravin Paithane et al. (2023): Demonstrated efficacy using cocoa butter and ginger-based cream.
- Sanjay Nipani et al. (2023): Conducted a clinical comparison, finding herbal creams like AFC more effective than commercial brands in healing cracked heels.

All these studies reinforce the potential of herbal alternatives in dermatology, especially in treating xerosis and fissures without adverse effects.

6. Conclusion

The increasing inclination towards natural and holistic skin care has propelled the relevance of herbal foot crack creams. The reviewed formulation, comprising coconut oil, camphor, and candle wax, provides significant moisturizing, healing, and antimicrobial benefits, making it a suitable remedy for cracked heels. The cream demonstrated good pH balance, spreadability, user tolerance, and shelf-life stability. With mounting clinical evidence and historical precedence in herbal medicine, such formulations represent a safe, effective, and affordable solution to a pervasive dermatological concern.

References

1. Mukherjee P.K. (2002). Quality Control of Herbal Drugs.
2. Nisha Umesh et al. (2024). Formulation and Evaluation of Herbal Foot Cream.
3. Saibhavana N et al. (2024). Development of Anti-Cracked Heel Cream.
4. Sushmita et al. (2024). Evaluation of Herbal Heel Crack Cream.
5. Sanjay U. Nipani et al. (2023). Comparative Study of Cracked Heel Creams.
6. AK Mohiuddin (2019). Skin Care Cream Formulations.
7. Edake A.C. et al. (2019). Polyherbal Foot Care Cream Studies.