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A REVIEW ON HERBAL CRACK HEEL HEALING CREAM

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- **ABSTRACT**

Dehydration, hardening of the outer layer of skin, and reduced skin flexibility contribute significantly to cracked heels, commonly referred to as heel cracks, which often cause pain, irritation, and subsequent bacterial infections on feet. Ancient healing methods provide temporary relief but can sometimes cause adverse reactions or fail in the longer term. Herbal preparations include naturally occurring active ingredients like antibacterial agents, anti-inflammatory substances, hydrating components, and healing elements; thus serving as an eco-friendly, economical, and enduring choice for treatment. This research endeavors to develop and evaluate an herbal ointment designed specifically for dry heel cracks using natural components such as Aloe barbadensis (also known as aloe vera), which offers soothing and moisture-retaining benefits; curcumin-rich Curcuma longa, effective in reducing inflammation and promoting healing of wounds; and kokum butter, renowned for its softening and hydration capabilities.

- **KEYWORDS:** Aloe Vera, Turmeric, Neem Oil, Herbal Cream, Kokum Butter, Cracked Heel Treatment, Antimicrobials, Moisturizers, and Skincare Products.

INTRODUCTION

Dehydration, hardening of the outer layer of skin called the epidermis, and reduced skin flexibility characterize cracked heels, commonly known as heel cracks. Extended time in one position often leads to dry skin due to lack of moisture; being overweight contributes significantly as well; age-related changes can also play a role; additional issues such as breathing through dusty environments and living in areas with insufficient air humidity exacerbate these conditions. During mild conditions, dry skin on the feet may lead to discomfort and reduced flexibility due to irritation and minor wounds.

Fig. No. 1: Cracked heel legs.

To make thickened keratin softer, help the skin stay moist, protect against infections, and speed up wound healing, cracked heel creams are specially made. These creams can be made with synthetic ingredients like urea, salicylic acid, and petrolatum, or with natural ingredients like neem, turmeric, aloe vera, and kokum butter. Using these creams is important for keeping feet healthy and preventing problems caused by cracked heels.

- **Crack heel cream**

Crack heel cream is a type of ointment that you put on your heels to help heal dry and cracked skin. It is made to be used on the outside of the skin and is meant to fix cracks and dryness on the heels.

Fig. No. 2: Crack heel healing herbal cream.

It includes ingredients like emollients, humectants, healing agents, and antimicrobial substances, which:
Help keep the outer layer of skin moisturized and soft.
Help repair cracks and splits by encouraging new skin cell growth,
Help prevent infection by fighting harmful microbes,
Help calm the skin and reduce inflammation.

- **Cracking**

It can happen for many reasons, like when the skin doesn't get enough moisture or when you're wearing shoes that don't cover your feet properly.
Understanding why this happens can help you stop it from happening again if you're experiencing symptoms such as cracked skin, thickened skin around your heels, or pain in your heels.
One type of chemical reaction that breaks down when heated is called cracking.
The most common causes of dry and cracked heels include medical conditions like juvenile plantar dermatosis, eczema, hypothyroidism, and obesity.
It can also be caused by infections, or by foot problems like flat feet, heel spurs, standing for long periods, or athlete's foot.

- **Advantages**

1. Natural & Safe – Made from plant-based ingredients that are gentler on the skin and have fewer side effects than synthetic creams.
2. Moisturizing Effect – Keeps heels deeply hydrated, helping to prevent dryness and roughness.
3. Healing Properties – Uses herbs like aloe vera, neem, and turmeric to help wounds heal and repair damaged skin.
4. Antimicrobial & Antifungal Action – Helps stop infections that can develop in deep cracks on the heels.
5. Anti-inflammatory – Reduces redness, pain, and swelling in cracked heels.
6. Cost-effective – Made from simple, widely available natural ingredients, making it affordable to use.
7. Eco-friendly – Free from harmful chemicals, safe for long-term use, and better for the environment.

- **Causes and risk factors**

Causes of Cracked Heels

1. Dry Skin: The most common cause is when the skin becomes too dry.
2. Excessive Pressure on the Heels: This can happen if you are overweight, walk barefoot often, or stand for long periods.
3. Open-Back Footwear: Wearing sandals or slippers that leave the heels exposed can lead to cracked heels.
4. Skin Disorders: Conditions like fungal infections, eczema, or psoriasis can also cause cracked heels.
5. Aging: As people get older, their skin tends to lose moisture and elasticity, making it more likely to crack.
6. Nutritional Deficiency: Not getting enough zinc, omega fatty acids, vitamin A, or vitamin E can contribute to cracked heels.
7. Poor Foot Hygiene: Not washing your feet regularly or not taking proper care of them can lead to cracked heels.

Risk Factors

1. Dry Skin – The most common reason is not keeping the skin properly moisturized.
2. Excess Pressure on Heels – This can be due to being overweight, walking barefoot, or standing for long times.
3. Open-Back Footwear – Wearing sandals or slippers that expose the heels can cause cracks.
4. Skin Conditions – Having fungal infections, eczema, or psoriasis can lead to cracked heels.
5. Aging – As people grow older, their skin loses oils and becomes less elastic, which increases the risk.
6. Nutritional Deficiency – Not getting enough zinc, omega fatty acids, vitamin A, or vitamin E can result in cracked heels.
7. Poor Foot Hygiene – Not taking care of your feet or not washing them often can also cause this problem.

- **Formula**

Sr. No.	Name of ingredients	Use
1	Aloe vera gel	Healing
2	Rose water	Soothing
3	Coconut oil	Moisturizing agent
4	Bees wax	Base, protective
5	Turmeric	Anti-bacterial, anti-inflammatory
6	Glycerine	Humectant
7	Kokum butter	API Emollient

- **MATERIALS CAN BE USED**

1. Aloe vera gel

Fig. No. 3. Aloe vera gel.

Synonym: Aloe spica, Aloes, Aloes de curacao, Aloes des barbadensis, Cape aloe, Chritkumari.
Biological source: It comes from the dried juice of the leaves of Aloe Barbadensis Miller.
Family: Asphodelaceae, Liliaceae.
Geographical source: Africa, Asia, Europe, and America.

Description
Aloe vera gel is one of the best natural remedies for cracked heels because it soothes, moisturizes, and helps the skin heal.
Aloe vera gel has a lot of water in it almost 99% which helps to make the dry and rough skin on the heels softer and more hydrated.
It also helps the skin stay flexible and stop it from cracking again.

2. Rose Water

Fig. No. 4. Rose water.

Synonyms: Attar of roses, eau de toilette, lavender water.
Biological source: Rose water is made by soaking rose petals in water.
Family: Rosaceae

Description
Rose water feels cool and refreshing when used.
It also helps get rid of bad smells on feet, which often happen when heels crack because bacteria grow there.
Rose water helps keep the skin's natural balance and gives it a little moisture.
It makes rough, hard heel skin softer and less likely to crack again.
The special chemicals in rose petals, like flavonoids, terpenes, and tannins, help with redness, irritation, and swelling.
This makes rose water helpful for sore, inflamed, cracked heels.
Rose water also has some antibacterial and antifungal powers, which can stop infections in cracked heels.

3. Coconut oil

Fig. No. 5: Coconut oil.

Synonyms: coconut oil, coconut butter, copra oil, coconut water, coco palm.
Biological source: coconut oil is the solid oil that comes from the seed of the coconut palm, extracted through pressing or other methods.
Family: Palmae.
Geographic source: Coconut grows in many places around the world.
It is mostly grown in African and Southeast Asian countries.

Description
Coconut oil has a lot of medium-chain fatty acids, especially lauric acid, capric acid, and caprylic acid.
These fatty acids go deep into the skin layers, keeping moisture in and stopping dryness that leads to heel cracks.
Coconut oil helps the body make more collagen and speeds up the healing of small cuts and wounds on the heels.
It forms a protective layer that stops more damage from happening.
The lauric acid in coconut oil has strong antibacterial, antifungal, and antiviral qualities.
This helps stop infections in cracked heels, which are easy for germs to enter.
Coconut oil comforts the skin around cracked areas, reducing redness and irritation.
It makes discomfort less and helps the skin repair itself faster.
It also helps remove dead skin cells and softens thick, hard areas on the heels.

4. Bees wax

Fig. No. 6: Bees wax.

Synonym: Cera Alba, Cera Flava, Yellow Wax, Yellow Beeswax, and White Beeswax.
Biological source: The honeycomb of Apismellifera, Apis dorsata, and other Apis species.
Family: Apidae
Geographical sources: Include India, Jamaica, France, Italy, and West Africa.

Description
Beeswax creates a protective layer on the skin that helps stop moisture from escaping.
This protective layer stops heels from getting dry again and helps lock in moisture.
It softens rough and hard skin by pulling water to it and works as a natural humectant and emollient.
Regular use helps prevent heel cracks from coming back.
Beeswax helps heal small wounds and cracks in heels by encouraging collagen production and skin cell renewal.
It contains natural substances with antibacterial, antifungal, and anti-inflammatory properties, such as propolis, esters, fatty acids, and vitamin A.
These qualities help reduce irritation and protect against infections in cracked heels.

5. Turmeric powder

Fig. No. 7: Turmeric powder.

Synonyms: Curcuma longa, saffron Indian, Haldi, Curcuma, Rhizoma curcumae.
Biological source: Turmeric comes from the dried root-like part of the plant called Curcuma longa Linn.
Family: Zingiberaceae
Geographical source: Turmeric is grown a lot in India, China, East Indies, and Pakistan.
Chemical constituents: The main active part of turmeric is called curcumin, along with resins, 5% volatile oils, fixed oils, and acids.

Description
Turmeric has a main active ingredient called curcumin, which has strong anti-inflammatory effects.
It helps reduce pain, swelling, and redness around cracked heels.
Turmeric has natural antiviral, antifungal, and antibacterial properties.
This helps prevent infections, which are common in cracked heels because they are open.
Curcumin helps in repairing tissue and increases collagen production.
This speeds up the healing process and helps close small cracks.
Turmeric also has antioxidants that protect skin cells from damage caused by free radicals.
This supports better skin repair and prevents more damage.
To soften thick and callused heel skin, you can mix turmeric with oils like coconut oil.

6. Glycerine

Fig. No. 8. Glycerine.

Biological Source: It comes from fats and oils like coconut oil, palm oil, and animal fat, which are leftover after making soap or biodiesel.
Description: Glycerine is a strong humectant that pulls water into the top layer of the skin and keeps it there.
This helps reduce dryness and prevents more cracks by keeping heel skin soft, flexible, and moist.
It fills in the small spaces between dry skin layers, making the skin softer and smoother.
This improves the texture of heel skin and helps stop the formation of thick, rough patches called calluses.
Glycerine helps the skin heal by keeping the right amount of moisture in the skin.
Moisturized skin heals faster than dry, cracked skin.
Glycerine forms a thin protective film on the skin's surface, which stops too much moisture from escaping and shields the skin from irritants.
It is often mixed with honey, aloe vera, rose water, or essential oils to help the skin heal and stay hydrated.

7. Kokum butter

Fig. No. 9: Kokum butter.

Synonym: Goa butter
Biological source: Kokum butter comes from the seeds of the Garcinia indica plant, which is also known as Kokum.
Family: Clusiaceae
Geographical source: This plant is commonly found in areas like the Western Ghats, Konkan region, Goa, Maharashtra, Karnataka, and Kerala in India.

Description
Kokum butter contains a lot of stearic acid and oleic acid triglycerides.
It helps soften rough and hardened skin on heels by going deep into the skin layers.
It brings back skin elasticity, stopping dryness and cracking.
It helps the body make more collagen and encourages skin cell growth.
It helps fix cracks and speeds up the healing of wounds on cracked heels.
Unlike some other butters, like cocoa butter, kokum butter is lightweight and does not feel greasy.

- **Evaluation Parameters**

1. Organoleptic evaluation
2. pH
3. Spreadability test
4. Irritation test
5. Microbial test
6. Washability

- **CONCLUSION**

Cracked heels are a common problem and are usually caused by dry skin, loss of skin elasticity, and external stress.
Natural remedies like aloe vera gel, rose water, coconut oil, beeswax, turmeric, glycerine, and kokum butter have shown great potential in treating and preventing heel cracks.
These remedies work by moisturizing, softening the skin, healing wounds, protecting against bacteria, reducing inflammation, and helping the skin to regenerate.
They include protective ingredients like beeswax, softening butters like kokum butter, and moisture retainers like glycerine.

These often work together with herbal ingredients like aloe vera, turmeric, and rose water.Because they are natural, safe, affordable, and have multiple uses, they are ideal for making herbal creams for cracked heels.

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