

# Formulation and Evaluation of Herbal Footcream

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**Abstract:** Skin diseases are numerous and a frequently occurring health problem affecting all ages from the neonates to the elderly and cause harm in number of ways. If the cracks in the heels are deep, they can be painful, hurting when a person stands up, and they may sometimes bleed. Some wild plants and their parts are frequently used to treat these diseases. Herbal crack cream contains the extracts of the plant consists of five ingredients viz., extract of Daruharida (*Berberis aristata* DC.), Pashanbheda (*Bergenia ligulata* (Wall.) Engl.), Jivanti (*Leptadenia reticulata* W. & A.), kampilak (*Mallotus philippensis* Muell.-Arg.), Manjistha (*Rubiacordifolia* Linn.) were used to prepare Herbal crack cream. The main objective of the research work was to prepare and evaluate Herbal crack cream and the results showed that Herbal crack cream passes all parameters related to cream and TLC of formulated cream and extract showed that the tannins, flavonoids and alkaloids were found to be present in mentioned medicinal plants.

These days, skin conditions are a major cause of illness for people of all ages. If someone has a crack in their foot's heel, it hurts and is quite uncomfortable. Environmental factors contribute to the growth of germs and fungi on human skin. This factor is taken into account when creating HERBALFOOTCREAM. That cream's function is to hydrate the heel, and its emulsion is w/o type (cold cream). Cold cream works by producing an oily coating on the skin that aids in reducing water loss from the skin to the environment. Water serves to hydrate and refresh the skin while beeswax and cocoa butter work as emollients, which aid to soften and smooth the skin. The key ingredient in these formulations is argan oil, which has vitamin E and is healthy for the skin since it hydrates. Neem extract also has antibacterial and antifungal properties. Lemongrass essential oil is used in fragrances. This cream is homogeneous, spread readily, and is naturally fatty. This is W/O emulsion and with an acidic pH (within the range of skin pH). There was no phase separation in this cream.

- The main aim of our research was to develop an anti-cracked heels cream formulation consisting of *hedygium spicatum*, *aleo barbadensis*, *azadirachta indica* for the treatment of cracked heels. Skin diseases are numerous and frequently occurring health problem affecting all age from neonate to the elderly and cause harm in number of ways.

- The skin is external exposure of the body. The ageing is most visible on the skin. Nowadays, premature ageing is a big complication in the world because of the changes in an environment. Feet is important part of body; they suffer from many frictions. The lack of oil gland in the feet skin which results into very dry skin. External penetration of dirt,

fungus, bacteria cause cuts and wounds. Bacterial decomposition is also occurred in foot give bad odour. For these purpose herbal foot cream is prepared.

- This herbal foot cream is prepared from Argan oil (good for dry skin), Neem extract (antibacterial & antifungal effects), Aloe vera extract (for hydration) and lemongrass oil (fragrance). Other than synthetic compound, herbs have more effective, low cost, more availability, and less side effects. Here, ARGAN OIL have good property which give protection to the skin and lemongrass oil is having a good fragrance. Argan oil contains vitamin E which is known as anti-inflammatory agent in skin and several studies proves that vit E is good in seal up the cracks caused by dryness..

**Keywords:** Skin diseases

## I. INTRODUCTION

The skin is the largest organ of the body, with a total area of about 20 square feet. Skin has three layers: The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone. The cosmetics are the utility product used extensively throughout the world for maintaining and improving general appearance of face and other part of body e.g. skin, eye, hair, hand, etc. herbal cosmetics are the preparation which represent cosmetics associated with active bio-ingredients, nutraceuticals and pharmaceuticals. Cosmetics are products that are used to cleanse and beautify the skin. The first recorded use of cosmetics is attributed to Egyptians in 4000 B.C. Pharmaceuticals are essentially drug products and are defined as products that prevent, mitigate, treat or cure disease and affect the structure or function of the body. The skin underneath your feet is often dry, rough and chapped. Disorders - Athlete's foot, psoriasis, eczema, thyroid disease, diabetes and some other skin conditions can be the cause of cracked heels. Maintaining healthy skin is important for a healthy body. Natural treatment is cheap and claimed to be safe. A review of some plants for the treatment of skin diseases is provided that summarizes the recent technical advancements that have taken place in this area during the past 17 years. It is also suitable raw material for production of new synthetic agents. The literature in ayurveda, especially charksamhita stated numerous medicinal plant in varnyakashaya. The herb like chandun, haldi, khas, nagkeshara, manjistha, yastimadhu, are used to obtained glowing complexion and arusa, amla, bavchi, guduchi, chakmard are mentioned as kustaharan. Herbs like amalaki, haridra, khadira, vidyanga, jati saptaparna, karavira of various potential from kshsthagna and mahakashiya are mentioned effective in skin disorder. Herbs used in cosmetics preparation have varieties of properties like Antioxidant, Antiinflammatory, Antiseptics and Antibacterial etc.

The skin on the feet tends to become drier as there are no any oil glands present. This dryness causes the skin to crack. Lack of moisturization, over exposure to pollution and a few medical conditions like eczema, diabetes, thyroid, and psoriasis cause dry and cracked feet. *Hedychium spicatum* Buch Ham (Family: Zingiberaceae) is commonly known as Spiked ginger lily, has a rich history of use in India. It is a perennial rhizomatous herb, commonly found in Himalayas at altitudes 3500-7500 ft. It has been valued in the Traditional. The rhizome extract has been reported to contain resins, saccharides, albumen volatile oil, starch, organic acids and glycosides. This has been advocated for blood purification and coverings of bronchitis, indigestion, eye disease and inflammations. A number of beneficial effects of burn plants are reported, including wound and burn healing, antifungal, and anti-inflammatory properties. *Azadirachta indica*, (Family: Meliaceae) commonly known as nimbin, nimbidin, nimbolide, and limonoids commonly found in India, Pakistan, Bangladesh, and Nepal. *Azadirachta indica* have antifungal and antibacterial activities. Biological and pharmacological activities have been reported including antibacterial, antifungal, and anti-inflammatory [1]. Cream contains medicament dissolved or suspended in water removable or emollient bases, classified as water-in-oil/oil-in-water and intended for application on the skin or accessible mucosa to supply localized and sometimes systemic effects at the location of the application. The function of skin cream is to guard the skin against harshness from the environment and any dry conditions of the skin. A skin cream should aid the skin in completing its normal functions that's restoring moisture to dry skin, allowing the elimination of waste through the pores. The cooling of the body by evaporation of water (perspiration) and radiation, thus aiding within the maintenance of the traditional blood heat

## II. REVIEW LITERATURE

### 1. G. R. SHAHET

Many therapeutic plants in Varnya Kashaya are mentioned in the ayurvedic literature particularly in the Charak Samhita. Herb like chakmard, amla, bauchi, guduchi, khas, nagkeshar, manjistha and yastimadhu are said to be kustaharan and they are used to achieve a radiant complexion.

Herbs with varying potential from kshsthagna and mahakashiya such as amalaki, jati saptaparna, and karavira, are mentioned as affective in treating skin disorder, various properties such as antioxidant, anti imflammatory, antiseptic and antibacterial are present in herbs used in cosmetic preparation.

### 2. Ramachandranet

Using a standard cream preparation procedure, herbal crack cream was made and contrasted with commercial cream. The color of the crack cream from market and Herbal were greyish yellow and light brown, respectively.

Each has a pleasant scent the viscosities of market crack cream and herbal crack cream were 16.567 and 13.194 plesc, respectively. The Ph market crack cream and herbal crack cream were 5.6 and 5.4 respectively.

Both market crack cream and herbal crack cream had bulk densities of 0.8661 and 0.8572 gm/ml because neither cream contained any bard or sharply edged particle they both had exceptional smoothness homogeneity and finesse. The market crack cream and herbal crack cream had outstanding spreadability and very good palatability. The squeezing out effect of market cream are eucellent, respectively. It is stable at 25 degree celcius.

### 3. S. Parial el al

Cosmetic are multipurpose product that are widely used globally to preserve and enhance the over appearance of the pace and other body part such as the hand, eye, skin and hair. Herbal cosmetic are preparation that resembles cosmetic containing pharmaceutical nutraceutical and active bio-ingredient.

Product used to cleanse and beautify the skin are caved cosmetic. In 4000 B. C. Egyptian are crediated with using cosmetic for the first time in history pharmaceutical are essentially drug product, which are defined as good that alter the structure or function of the body and prevent, mitigate, treat or cure disesase.

Often the skin beneth you feet is rough, dry and chapped. Disorder cracked skin can result from a number of skin condition, including diabete, thyroid disease, eczema psoriasis and athelete foot. A health body depend on having healthy skin.

#### Aim :

- Formulation and evalution of Herbal foot crack cream.
- Remove toughness and dryness in feet.
- Relieves aching heels.
- Our project primary goal was to formulate and evaluate herbal anti-crack cream.

#### Objective :

The main aim of our research wash develop on anti-cracked heels cream Formulation, consisting of Hedychium Spicatum Aloe barbadensis Azadirachta indica for the treatment of cracked heels.

### III. MATERIAL AND METHOD

- 1) Milk
- 2) Rose petal
- 3) Neem leaves
- 4) Wheat germ oil
- 5) Aloe vera
- 6) Vitamin E
- 7) Sandle wood oil
- 8) Glycerine
- 9) Bees wax
- 10) Coffee powder
- 11) Turmeric

**1. Milk :**



Milk plays a significant role in healing cracked feet through various mechanisms. In the context of repairing concrete cracks, milk acts as a catalyst in the enzyme-mediated calcite precipitation method, enhancing calcite formulation and used in topical ointments for treating skin damage and disinfecting feet, showcasing its antimicrobial properties.

**Chemical constituent :**

Protein, fat, lactose and mineral are four major components in all milks.

**Health Benefits :**

- Foot cream helps keep the feet hydrated, preventing dry skin and heels.
- Keep your feet moisturized = dry and cracked skin on the feet can be uncomfortable and painful. Foot cream moisturization to dry and rough skin on the feet that help soften the skin, preventing cracks and fissures, and promoting smoother and healthier feet.

**Protection :**

If your feet are exposed to harsh wind and sun, you can get cracks, cuts and blisters. Regular use of foot cream can minimize the cause, build-up, improve foot comfort and appearance.

**2. Aloe vera:**



Aloe vera extract is a colourless and transparent to brown slightly viscous liquid. Drying it becomes a yellow fine powder. It has a strong hydrating performance.

In these studies, attempts have been made to develop foot care cream from the herbal extract of the plant and their extract. I have immense potential for the management and treatment of skin disorders.

**Chemical constituent**

Aloe vera contains anthraquinone glycoside, polysaccharide, organic acid, amino acid, mineral, vitamin, plant sterol, plant hormone.

The most basic Function of aloe cream is to form a skin film on the surface skin. It can protect or alleviate the skin irritation caused by factor such as climate change and environmental impact and directly provide appropriate supplement the skin, with nutrient.

**Benefit :**

- It has multiple Function such an anti-acne, anti-aging increasing skin elasticity (sun protection moisturizing, soothing, repairing after a sun and relieving burn organic acid has significant effect on skin whitening and curing acne.
- Aloe vera are include reducing dental plaque, accelerating wound healing, preventing wrinkles and managing blood sugar.
- Aloe vera contain proteolytic enzyme which repair dead skin cell hydrate and strengthen hair follicles

**4. Neem leaves**



Neem leaves are extract from the Sun light then are the not colourless and transparent in the greenish color the powder. Neem leaves are paste with yogurt and are help in control hyperactive sebaceous gland.

**Chemical constituent :**

It is contained azadirachtin and related limonoid and contain glyceride, diverse polyphenol, nimbolide, triterpens and beta-sitostenol leaves contain quercetin, catechin carotene and vitamin c.

The principal constituent of neem leaves include protein Carbohydrate, mineral, calcium phosphorous carotene.

**Benefits.**

- Boosts immune system. Help to fungal skin infection work as mosquito Repellent.
- Neem is rich in natural anti-fungal compound that make ideal for treating athlete. Foot and Fungal Infection.
- Neem leaves is strong anti-oxidant antimicrobial, anti- inflammatory agent, neuralizing free radical and may be effective against different type or bacteria viruse and fungi.

**5. Bees Wax :**



Bees wax is an excellent ingredient. It is used natural and organic skincare. It is a thickening agent.

Bees work only work as-a water in oil emulsifier meaning it will create heavy greasy cream. That is why it is referred for cold cream. Here emulsifier is required because it can only emulsify a small amount of water and the emulsion will not be stable over a long period of long time.

**Chemical constituent.**

Bees wax is consist of the primarily of a mixture of ester of Patty acid and Patty alcohol, paraffinic hydro-Carbon and free fatty acid.

Bees wax is consist of the myricin and myricyl palamitate. free cerotie, acid.

Small quantity of melissic acid and aromatic substance cerolein ore the other constituent

**Benefit:**

- Bees wax is include in the moisturizing component. Bees loas in moisture and can help keep the skin firm and Plump.
- The anti-allergie and anti- inflammatory properties soothe easily irritated skin.
- Bees wax is anti-allergic, anti-oxidant, anti-bacterial and germicidal.

**6. Turmeric**



Turmeric is the extraction or the sun light day to day. Then to the turmeric is dry and not colorless in the color is the original yellowish.

Then the dry of the turmeric is the crush of fine powder and pastes.

**Chemical constituent :**

Turmeric is use in the moisturic of the foot and the curcuminoid which that are phenolic compound active ingredient in turmeric.

Turmeric is the include in the ethanol and found are seven compound are the gallic acid, photo - catechuic acid, epicatechin, rutin, curcumin, myricetin and cinnamic acid.

**Benefit**

- Turmeric are the anti-cridant anti-inflammatory, and anti-fungal. anti-allergic anti-coagulant, anti- infertility anti-cancer, anti-diabetic.
- Turmeric are improve injuries like muscle strain, sprain, and plantar fasciitis.
- It is naturally ease discomfort associated with neuropathy in the feet.

### 7. Coffee powder



Coffee may be very effective at cleansing the feet and smoothing and softening the skin.

Bean paste can help remove dead skin cell from the sole of the feet and the stimulating effect or caffeine- can help in increase blood flow and circulation in this area.

#### **Chemical constituent :**

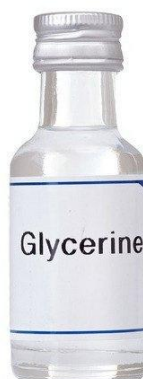
Coffee powder are include in and constituent of coffee are Caffeine tannin, fixed oil Carbohydrate and protein.

It contain seed, caffeine is present as a salt of chlorogenic acid. it contain oil and wax. It constituent it is the acid and anhydride, Alkaloid, Alcohol, amine, ester, keton organo-Sulfuric compound, phenol.

#### **Benefits :**

- Coffee powder are contain anti-oxidant and other active substance that may reduce internal inflammatory & protect against disease.
- Coffee powder are the regenerate nourishes hard and crack skin, soften hard gently peeling effect. prevent hardening Fresh Fragrance.
- Coffee powder are reduce. corns and callusest.
- Heal dry and cracked feet
- Exfoliate dead and hand skin cells.
- Hydrate & soften skin.

### 7. Glycerin :



Glycerin is the a humectant it has ability in your skin to lock in moisture and help retain it for long a it is popular moisturiser.

The first step before you apply glycerine are deeper level or your skin and the

The glycerine are commonly used the occulsive another type or moisturizing agent.

**Benefits :**

- Moisturize deeply
- Heal creak heels.
- Prevent corn and calluses
- calm irritation & itching
- provide cooling sensation the feet.
- Glycerine help skin feel & look healthier and more supple.

**Chemical constituen :**

It consist of a polyol compound that three and hydroxyl group carbon atom

**8. Wheat germ oil.**



Nutrient wheat Germ oil is rich in vitamin B6, folic acid & vitamin E and is effective against dry, cracked & damage skin.

**Benefit :**

- This nourishing cream is packed with antioxidant and moisture intensive hydrosome work together which to give your Firmer, glowing and youthful looking skin
- It help to brighten skin tone. Diminish wrinkles and fade Stretch mark I while Fighting against the effect of UV ray free radical.
- It is consist of the anti- ageing anti-oxidant Pressure management Blood Anti-inflammatory skin-moiturising
- Nourishment for skin Strengthening immune system manage cholesterol.

**Chemical constituent :**

Total lipid of the germ of consist nonpolar germ lipid Ctriglyceride glucolipid phospholipid.

Wheat germ oil is rich phytosterol especially campesterol and beta-sitosterol.

Wheat germ oil is consist of protein (gluten), mineral vitamin B and E, riboflavin Diacin, thiamine dietary fiber



### 9. Sandal wood oil :



Sandal wood oil is formed by the extract composition of the depend on several factor the species or sandal wood The region where the sandalwood was grown.

The season when the sandal wood was harvested the extraction process used. Sandal wood oil is an essential oil obtained from the steam distillation of chip and billet cut from the heart wood of various species of sandal wood trees. mainly *santalum album*.

#### **Chemical constituent :**

Sandal wood oil contain more than the sesquiterpenic alcohol on which 50-60 t. is the tricyclic alfa sandalol.

#### **Benefits :**

- Lower anxiety level.
- Fight skin cancer.
- Aid wound healing
- work as an anti-inflammatory
- promote better sleep
- protect against free radical
- Boost skin health
- provide antiseptic antiviral protection.

### 10. Rose petal



Rose petal can be used to tone, cleanse and tighten the Skin. They can help reduce the appearance of dark spots & prevent break out.

Rose petal are rich in vitamin A and C. They have calaming effect that can help reduce stress and anxiety levels.

**Chemical constituent :**

It contain Flavonoid triterpense tannin, phenolic acid and polysaccharide, fatty acid, carotenoid and vitamin

**Benefit :**

- Used to uplift the heart and cool the mind & body.
- Rose petals have calming effect that can help reduce stress and anxiety level
- Reduce redness and inflammation.

**11. Vitamin E :**



Vitamin E is a Fat - soluble essential nutrient with anti-inflammatory properties. vitamin E help support the Immune system, cell function and skin health. It is an antioxidant, making effective combating the effect of free radical produce by the metabolism or Food and toxin in the environment.

**Benefit :**

- It help you maintain healthy skin and a robust immune system.
- Vitamin E help protect the collagen in your skin from biological processing linked to the aging or your skin as well as the drying effect that aging has on skin.
- It is an anti-oxidant properties widening blood vessel and promoting efficient blood to the extremities

**Method :**

Take mortar and pestle and wash it properly.

Then take a rose petals and crush it and convert into the powder form.

Then add 2-3 Neem leaves and convert into the powder form.

Add a 1ml sandalwood oil,0.5ml wheat germ oil and 10 ml of milk and mix properly.

Then add 1 teaspoon aloe vera gel and mix it properly which make solution in viscous form or semi solid form.

Add half teaspoon bees wax.

Add 1ml glycerine, 1 gram turmeric powder and one gram coffee powder and mix it properly with all ingredients.

And form a cream which is apply on crack heel for 10 to 20 minutes and scrub it with the help of cotton.



#### **IV. CONCLUSION**

According to the evaluation test results, argan oil, which is a key ingredient in herbal foot cream because it contains a higher proportion of vitamin E, is very helpful in mending the foot heel. Cream is created with water in an oil type. As a result, evaporation of water from skin reduces and prevent the skin from drying.

#### **V. ACKNOWLEDGEMENT**

We would like to express our gratitude to Faculty of Pharmacy, Faculty of Pharmacy, Dr Babasaheb Ambedkar Technological University Lonere, Maharashtra, for offering the opportunity to conduct project work on a herbal foot cream. We also want to express our gratitude to the faculty members who helped us along the way.

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