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A Review on Herbal Based Cream in Treatment of Athletes Foot (Tinea Pedis)

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Abstract: *Tinea pedis, commonly known as athlete's foot, is a superficial fungal infection caused predominantly by dermatophytes such as Trichophyton rubrum and Epidermophyton floccosum. It is characterized by itching, scaling, and cracking of the skin between the toes and on the soles. Conventional antifungal therapies are effective but may cause side effects and recurrence, prompting interest in herbal alternatives. This review focuses on the formulation and evaluation of herbal-based creams containing plant extracts such as neem (Azadirachta indica), tulsi (Ocimum sanctum), papaya (Carica papaya), aloe vera (Aloe barbadensis), turmeric (Curcuma longa), ghee, honey, and calendula (Calendula officinalis). These botanicals exhibit significant antifungal, antibacterial, anti-inflammatory, and wound-healing properties that aid in the management of tinea pedis. Herbal creams offer additional benefits such as improved skin hydration, minimal irritation, and eco-friendliness. Although herbal remedies demonstrate promising therapeutic potential, further clinical studies and formulation standardization are required to validate their efficacy and ensure consistent quality.*

Keywords: *Tinea pedis*

I. INTRODUCTION

Creams are classified as semisolid emulsions that are designed for external application and can be either water-in-oil (w/o) or oil-in-water (o/w) in nature. There are two types of cream: 1.water-in-oil and 2. oil-in-water. Cream falls into one of two categories: water in oil emulsion or oil in water. It is applied to the skin's outside or superficial layer, and its primary function is to stay there for a longer amount of time. A skin cream's purpose is to protect the skin from various weather conditions and environmental factors while also providing a calming effect.

Cleansing, cold, foundation, vanishing, night, massage, hand, and body creams are among the various kinds of creams. Our primary goal is to create a multifunctional herbal cream that can hydrate, lessen acne and skin irritation, lessen skin conditions including psoriasis, eczema, dry skin, wrinkles, rashes, and more, while also enhancing facial radiance.[1,2,3]

Creams act as a cleanser for the face in many circumstances. More recently antiageing creams have been manufactured which can retain younger looking skin for many years. The best cleansing agents are cleansing cream, soap and water. Cosmetic creams serve as a skin food for hard, dry and chapped skin. It mainly lubricates, softens and removes unwanted dirt from the skin. Some popular fat creams that are used include Vaseline and Lanolin. Dry creams are used in the manufacture of soap and gelatin which is used as a base for the skin. Hair care has become one of the fastest developing markets in the beauty industry. Many young men turn to oils and gels to maintain and style their hair. Products like hair gels, oils, and lotions have been introduced in the market to help protect hair fall and dandruff. Some professions, like the show

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business industry, focus on the importance of the outer appearance. Many personalities and artists have utilized makeup to beat the harsh lights and the glare of camera flashes. They very well know the importance of their looks and maintain them by using a variety of cosmetics.

Recent research has shown that makeup helps in protection from harmful rays of the sun. Many beauty products manufacturers have utilized the needs of people to protect themselves and their skin from the rays of the sun. Many beauty products manufacturers have utilized the needs of people to protect themselves and their skin from the rays of the sun. The Importance of Cosmetics.

Today Cosmetics help to enhance our appearance and make us feel more confident. With more cosmetics on the market today than ever before, it becomes obvious to us that they play a great role in our everyday life .

The best option for reducing skin issues is a cosmetic product. In addition to creating a pleasing outward look, cosmetics use helps people achieve good health by lowering skin conditions. Natural herbal skin care products hydrate, nourish, and moisturize the skin. The goal of the current project is to create a herbal cream that has a variety of uses, such as reducing skin conditions like hyperpigmentation, wrinkles, and aging. Offer a polyherbal lotion that contains medications such as papaya leaves, liquorice, and neem.[4,5]

Neem, or Azadirachta indica (Family Meliaceae), is widely recognized for its therapeutic qualities. Neem has shown remarkable efficacy against viruses, parasites, and dangerous fungus. The majority of beneficial in the treatment of numerous skin maladies and disorders, such as psoriasis, eczema, and other chronic illnesses.[6] Its leaves have a wide range of activity against both Grampositive and Gram-negative bacteria, such as Vibrio cholera 3 and M. tuberculosis.[7]

Tulsi (Ocimum sanctum Linn) is superior, and studies are now verifying its health benefits. There is growing evidence that tulsi's special mix of pharmacological activities can help with physical, physiological, metabolic, and psychological stress. Tulsi has been shown to shield organs and tissues against physical stress caused by ischemia, prolonged physical activity, physical restraint, exposure to cold, and loud noises, as well as chemical stress caused by industrial pollutants and heavy metals. Because of its broad-spectrum antimicrobial activity, which includes action against a variety of human and animal pathogens, tulsi may be used as a mouthwash, hand sanitizer, and water purifier. It may also be used in wound healing, animal rearing, food preservation, the preservation of herbal raw materials, and the health of travelers.Food security, rural poverty, hunger, environmental degradation, and climate change can all be addressed through organic gardening, which also has spiritual and practical benefits by connecting the producer to the creative energies of nature. The incorporation of tulsi into everyday routines is evidence of Ayurvedic wisdom and shows how traditional knowledge may be applied to contemporary issues. [8,9]

Because of its many advantages for skin, hair, and nail care, carica papaya has become a prominent and sought-after ingredient in cosmetics. The safety and effectiveness of Carica papaya in cosmetic applications have been validated by a mix of data from in vitro, in vivo, clinical research, and traditional uses. Because its bioactive ingredients, including as papain, have been demonstrated to work well in a variety of cosmetic compositions, it can be a good substitute for synthetic chemicals. Given the growing demand for natural and sustainable cosmetics, carica papaya has the potential to be a key ingredient in the creation of novel, potent, and environmentally friendly products. Future research should focus on standardizing extraction and formulation procedures, investigating the synergistic effects of additional natural substances, conducting comprehensive clinical trials, and identifying new cosmetic applications.[10]

Athletes foot (Tinea pedis)

Tinea pedis, commonly known as athlete's foot, results from fungal infections on the skin of the feet caused by dermatophytes, including Trichophyton rubrum, T mentagrophytes, T interdigitale, and Epidermophyton floccosum. This infection typically occurs through direct contact with the organism while walking barefoot in locker rooms, showers, and swimming complexes. Individuals with diabetes and those who wear occlusive shoes are at an increased risk of developing tinea pedis.

Tinea pedis typically presents with pruritic scales and erosions between the toes. Some patients may experience areas of hyperkeratosis with underlying erythema on the medial and lateral aspects and soles of the feet. Occasionally, patients

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with this condition may present with painful bullous lesions concurrently develop tinea corporis, onychomycosis, and tinea manuum.

Untreated tinea pedis can lead to cellulitis, pyoderma, and osteomyelitis, especially in patients with immunocompromised conditions, diabetes, or peripheral vascular disease. This topic explores the etiology and pathophysiology of tinea pedis, as well as highlights the critical roles of the interprofessional healthcare team in evaluating, managing, and preventing recurrence and complications of the condition.

Symptoms

The skin on the foot, especially between the toes, becomes Itchy – there is also a sensation of stinging or burning. The skin may also become:

• Dry
• Flaky
• red
• scaly
• cracking

Sometimes, the skin cracks, and there may be oozing or crusting, itchy blisters, and swelling. The sole and the side of the foot may develop scaling patterns. [8]

Bacterial infections can sometimes occur alongside the condition. When athlete's foot is severe and causes open sores in the skin, it makes it more vulnerable to bacteria.

If left untreated, there is a risk that the infection will spread from toe to toe. A rash may develop on the sides and the bottom of the feet. In rare cases, athlete's foot can spread to the hands, this is known as tinea manuum. The symptoms are very similar to those experienced in the feet.

People who do not wash their hands immediately after touching the affected area on their foot are at higher risk. Tinea manuum is a rare complication of athlete's foot.

If the patient scratches the affected area and touches other parts of the body, the infection can spread. It is important to treat athlete's foot as soon as symptoms appear. After touching the affected area, it is important to wash hands thoroughly with soap and warm water. [29]

Pathophysiology

Dermatophytes, primarily from the genera Trichophyton and Epidermophyton but also from the genera Microsporum and Nannizzia, are the most common causes of tinea pedis.

Nondermatophytes that can also cause this condition include

Neoscytalidium dimidiatum,Scytalidium hyalinum, and, rarely, Candida species. [1]

Dermatophyte fungi invade the superficial keratin of the skin by using keratinases, with the infection remaining confined to this superficxial layer. Dermatophyte cell walls also contain mannans, which can inhibit the body's immune response. T rubrum in particular contains mannans that may reduce keratinocyte proliferation, resulting in a decreased rate of sloughing and a chronic state of infection.

Temperature and serum factors (eg, beta globulins and ferritin) appear to have a growth- inhibitory effect on dermatophytes; however, this pathophysiologic process is not completely understood. Sebum also is inhibitory, thus partly explaining the propensity for dermatophyte infection of the feet, which have no sebaceous glands. Host factors such as breaks in the skin and maceration of the skin may facilitate dermatophyte invasion. The cutaneous presentation of tinea pedis is also dependent on the host's immune system and the infecting dermatophyte.[9,10]

Etiology

The most common etiological agents are Trichophyton rubrum and Trichophyton interdigitale.The predominating dermatophytes may vary with geographic locations (related to climate characteristics and social factors) and change over time. Other less common causative dermatophytes include Epidermophyton floccosum , Trichophyton tonsurans, Trichophyton soudanense, Trichophyton violaceum and Microsporum audouinii. Non-dermatophyte moulds, such as

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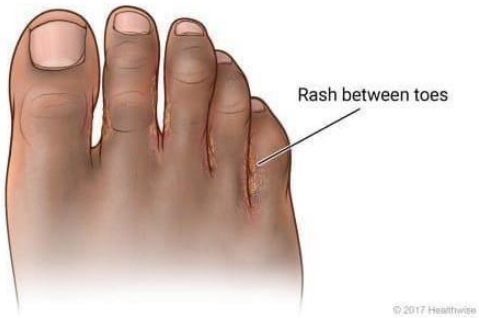
Neoscytalidium hyalinum, Neoscytalidium dimidiatum, Scopulariopsis brevicaulis and Fusarium species, are uncommon causes of tinea pedis. Rarely,
Cylindrocarpon lichenicola and yeasts primarily Candida species may also cause tinea pedis. floccosum, Trichophyton tonsurans, Trichophyton soudanense, Trichophyton violaceum and Microsporum audouinii.Non-dermatophyte moulds, such as Neoscytalidium hyalinum, Neoscytalidium dimidiatum, Scopulariopsis brevicaulis and Fusarium species, are uncommon causes of tinea pedis .Rarely, Cylindrocarpon lichenicola and yeasts primarily Candida species may also cause tinea pedis. [11]

Types

Your symptoms depend on the type of athlete's foot that you have.

1. Toe web infection: A toe web infection is the most common type of athlete's foot. It typically affects the skin between your fourth toe (ring toe) and fifth toe (pinkie toe). Your skin may
change color, crack, peel or flake.



2. Moccasin-type infection: A moccasin-type infection affects the bottoms of your feet, your heels and the edges of your feet. Your feet may be sore for a few days.
Then, the skin on the bottoms of your feet thickens and cracks. In rare cases, your toenails may get infected. They can thicken, break into small pieces and fall out.

3. Vesicular-type infection: A vesicular-type infection typically affects the bottoms of your feet, but it may appear anywhere on your feet. A vesicular-type infection features bumps or fluid-filled blisters (vesicles).

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4. Ulcerative infection: An ulcerative infection is the rarest type of athlete's foot. Open sores (ulcers) often appear between the toes. Open sores may also appear on the bottoms of your feet.

The key mechanisms of drug-provoked tinea pedis Immunosuppression

The primary mechanism involves suppressing the local immune response that would normally keep a dermatophyte infection in check.

A. Reduced inflammation: Corticosteroids work by reducing the inflammation caused by the immune system's reaction to the fungus. This temporarily relieves the itching and redness, making the condition seem like it's improving. However, by dampening the local immune response, the drug removes the body's natural defense against the dermatophyte.

B. Fungal proliferation: With the immune system suppressed, the fungus can multiply and spread unimpeded. As the infection becomes more extensive and penetrates deeper skin layers, it becomes more difficult to treat.

C. Altered appearance: The reduction in inflammation and immune activity can change the typical appearance of a tinea infection, which normally has raised, scaly borders. The infection becomes less inflamed, spreads outward, and may lose its classic ring-like shape. This condition is known as "tinea incognito," and it makes proper diagnosis more difficult.

Altered skin environment Certain medications or treatments can create an environment on the foot that is more conducive to fungal growth.

Compromised skin barrier: Any drug or condition that compromises the skin's integrity, such as excessive sweating (hyperhidrosis) or trauma, can make it easier for dermatophytes to invade and establish an infection.

D. Altered pH: Conditions that raise the local skin pH can favor fungal growth. Prolonged and recurrent infection

The misuse of medications, particularly topical steroid-antifungal combination creams, can lead to chronic and recurrent infections. [20]

E. Inadequate treatment: Patients using a combination cream may mistake the temporary relief of inflammation for a cure. When they stop applying the cream, the underlying infection flares up again, often more aggressively.

F. Drug resistance: The widespread and often inappropriate use of topical steroids and antifungals has been linked to the emergence of drug-resistant dermatophyte strains, such as Trichophyton indotineae, making infections harder to treat.

Drugs associated with provoking tinea pedis

G. Topical and systemic corticosteroids: These are the most common agents. They are often misused to treat rashes that are mistakenly identified as non-fungal, but are in fact a fungal infection. Potent, fluorinated corticosteroids can be especially problematic.

H. Topical calcineurin inhibitors: Medications like tacrolimus and pimecrolimus, which are sometimes used for inflammatory skin conditions, can also suppress the local immune response and provoke tinea incognito.

I. Antibiotics: Prolonged courses of broad-spectrum antibiotics can disrupt the body's natural microbial balance, potentially allowing fungi to grow unchecked.

J. Oral antifungals: In rare cases, a flare-up can occur at the start of oral antifungal treatment, a phenomenon known as the "Jarix-Herxheimer–like reaction." This is thought to be caused by a vigorous inflammatory response to a massive die-off of fungal cells and the release of inflammatory antigens.

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Types of Creams Used in Tinea Pedis

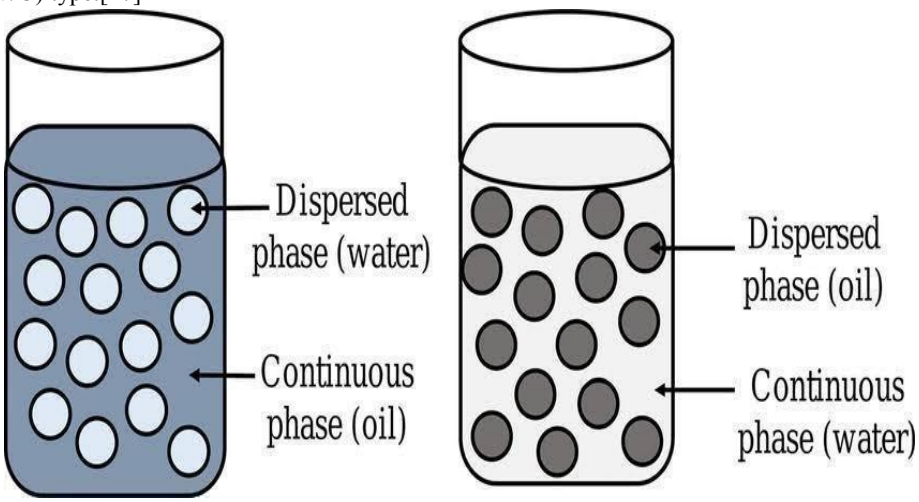
1. Moisturizing / Cold Creams (Winter Creams, W/O emulsion)Very important in tinea pedis, as they reduce dryness, scaling, and itching. They act as emollients that soften plaques and improve skin barrier function.
2. Protective CreamsUsed to shield tinea pides skin from external irritants (e.g., dust, chemicals, or harsh soaps). Some contain barrier-forming agents like petrolatum, dimethicone, or zinc oxide.
3. All-Purpose Creams / General Creams (when formulated with actives)Sometimes used as a base to deliver topical drugs (like corticosteroids, calcipotriol, coal tar, salicylic acid). These creams are modified to provide both moisturizing and therapeutic benefits. [14]
4. Hand and Body Creams Specially for psoriasis on elbows, knees, palms, or soles, which need thicker emollients for hydration [15,16]

Types of Skin Creams.

• They are divided into two types:

Oil-in-Water (O/W): creams which are composed of small droplets of oil dispersed in a continuous phase, and an emulsion in which the oil is dispersed as droplets throughout the aqueous phase is termed an oil-in-water (O/W) emulsion.

Water-in-Oil (W/O): Creams which are composed of small droplets of water dispersed in a continuous oily phase. When water is the dispersed phase and an oil the dispersion medium, the emulsion is of the water-in-oil (W/O) type.[17]



Properties Herbal Cream:

Physical State: Semi-solid, viscous preparations with a relatively fluid consistency.

Texture & Consistency: Can range from non-greasy to mildly greasy and possess a smooth texture, making them easy to spread.

Emulsification: They are emulsions of oil and water, requiring emulsifiers for stability.

Spreadability: A good cream spreads easily and evenly across the skin, facilitating application.

Viscosity: A sufficient level of viscosity is necessary for the cream to hold its shape and maintain its consistency.

Homogeneity: The formulation should have a smooth, uniform texture, meaning the active ingredients are well-dispersed.

Stability: Creams must be stable both physically and chemically, resisting separation of the oil and water phases and degradation of the active ingredients.

Occlusivity: Some creams, particularly W/O types, provide an occlusive layer that slows water loss from the skin.

Ideal Characteristics

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Non-Irritating: A base that does not cause skin irritation or sensitization is essential. Non-Toxic: The formulation should be free from dangerous substances.
Cosmetically Acceptable: Should be odorless or have a pleasant fragrance and an appealing appearance.
Water-Washable: O/W creams, in particular, should be easily removed with water. Compatibility: The base and any added ingredients must be compatible with the active drug. Moisturizing: Creams help retain skin moisture and protect against dryness.
Drug Delivery: They serve as vehicles to deliver active ingredients for localized treatment. Protective Barrier: Creams can form a physical or chemical barrier on the skin's surface. Emollient Effects: They provide a soothing and softening effect on the skin. [18,19]

Advantages of Herbal Cream:
• Rich in Natural Nutrients: Herbal creams are rich in natural vitamins, minerals, and antioxidants that nourish the skin and promote long-term health.
• Gentle on Skin: Formulated with natural ingredients, they are generally less likely to cause irritation or allergic reactions, making them suitable for sensitive skin types.
• Eco-Friendly: Composed of biodegradable natural ingredients, herbal cosmetics are more environmentally sustainable than many synthetic products.
• Free from Harmful Chemicals: They typically do not contain harsh chemicals like parabens, sulfates, and artificial fragrances found in some synthetic products.
• Wide Variety of Ingredients: A vast array of plant extracts and components are available to target different skin concerns.
• Not Animal Tested: Many herbal products are not tested on animals, aligning with ethical consumer preferences. [20]
Disadvantages of Herbal Cream:
• Slower Results: Herbal creams may take longer to show effects compared to synthetic products, as they work by naturally improving skin health over time.
• Shorter Shelf Life: Lacking synthetic preservatives, herbal creams may have a shorter shelf life and require more attention to proper storage and expiration dates.
• Potential for Allergic Reactions: While generally safe, natural ingredients can sometimes cause allergic reactions in certain individuals, highlighting the need for patch testing.
• Higher Cost: The use of natural ingredients and sometimes smaller batch production can result in a higher cost for some herbal creams.
• Variable Quality: The quality and effectiveness of herbal creams can vary depending on the manufacturing process and the specific herbal extracts used.
• Lack of Standardization: The absence of a defined pharmacopoeia for specific herbal ingredients can lead to inconsistencies in product quality and efficacy. [21]

AYURVEDIC MEDICINE PANTS FOR WOUND HEALING
1. Neem:

Neem

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• Biological Source:
Obtained from the leaves of the plant Azadirachta indica A. Juss.
• Family Name: Meliaceae • Biological Name: Azadirachta indica
• Synonyms: o Scientific Name: Azadirachta indica A. Juss.
o English: Neem, Indian Lilac o Hindi: Neem o
Sanskrit: Nimba o Other
Names: Margosa tree (English), Vepa (Telugu), Bevu (Kannada), Veppam (Tamil)
• Chemical Composition:
Rich in bioactive compounds such as: o Limonoids: azadirachtin, nimbin, nimbidin o Flavonoids: quercetin o Triterpenoids o Steroids o Phenolic compounds
• Use
For Skin Conditions (including Psoriasis):
Neem leaves possess strong anti-inflammatory, antifungal, and antibacterial properties. They help soothe irritated skin, reduce scaling, and combat infection in skin diseases like psoriasis and eczema.
Medicinal Uses: o Antibacterial o Antifungal o Anti- inflammatory o Antiviral o Detoxifying agent [21]

2. Tulsi;

Tulsi

• Biological Source:
Obtained from the leaves of the plant Ocimum sanctum Linn.
Family Name: Lamiaceae • Biological Name:
Ocimum sanctum (also known as Ocimum tenuiflorum)
• Synonyms:
o Scientific Name: Ocimum sanctum Linn. o English: Holy Basil o Hindi: Tulsi o Sanskrit: Tulasi o Other Names: Sacred basil, Thulasi (Tamil), Tulshi (Marathi), Haripriya (Ayurvedic)
• Chemical Composition:
Contains a wide range of phytochemicals including:
o Essential oils: eugenol, methyl eugenol, carvacrol
Flavonoids: orientin, vicenin
o Tannins o Saponins o Triterpenes o Phenolic compounds
• Use
For Skin and Immune Support:
Tulsi leaves help reduce oxidative stress and support the immune system. Their antibacterial and anti-inflammatory actions can benefit skin conditions, including acne and mild psoriasis.
Medicinal Uses:
o Adaptogenic (helps the body adapt to stress)
o Antimicrobial o Immunomodulatory o
Anti-inflammatory o Antioxidant [22]

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3. Papaya Leaves;

Papaya Leaves

• Biological Source: It is obtained from the leaves of the plant Carica papaya Linn.
• Family Name: Caricaceae
• Biological Name: Carica papaya
• Synonym: o Scientific Name: Carica papaya Linn.
o English: Papaya, Pawpaw
o Hindi: Papita, Erandakarkati
o Sanskrit: Erandakarkati
o Other Names: Tree melon (Holland), Mamao (Brazil), Mamo (Australia)
• Chemical Composition: alkaloids (like carpaine), flavonoids (such as kaempferol and quercetin), phenolic acids (like ferulic acid and chlorogenic acid), carotenoids, glucosinolates, saponins, and glycosides.
• Use
For Psoriasis:
Papaya leaves may help reduce inflammation and promote skin health due to their antioxidant and anti-inflammatory properties, potentially providing relief from psoriasis symptoms.
Medicinal Uses:
o Anti-inflammatory, o antioxidant, and o antimicrobial properties.
o Used to treat digestive issues, wounds, and as an antiparasitic agent. [23]

5. Aloe Vera

• Biological Source: Obtained from the leaves of the plant Aloe vera Linn.
• Family Name: Asphodelaceae
• Biological Name: Aloe vera
• Synonym:
o Scientific Name: Aloe barbadensis Miller o English: Aloe, Burn plant o
Hindi: Ghritkumari o Sanskrit: Kumari o Other Names: Barbados Aloe, Curacao Aloe

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• Chemical Composition: anthraquinones (aloin, emodin), polysaccharides (acemannan), vitamins (A, C, E, B12), enzymes (amylase, lipase), minerals (calcium, magnesium, zinc), and amino acids.
• Use o For Skin Disorders:
Helps reduce inflammation, moisturizes, promotes wound healing, and soothes burns.
o Medicinal Uses:
Anti-inflammatory Antioxidant
Antibacterial and antifungal
Used for wound healing, burns, digestive issues, and skin hydration.

6. Turmeric (Curcuma longa):

• Biological Source: Obtained from the rhizomes of the plant Curcuma longa Linn.
• Family Name: Zingiberaceae
• Biological Name: Curcuma longa
• Synonym:
o Scientific Name: Curcuma domestica Valeton o English:
Turmeric o Hindi: Haldi o Sanskrit: Haridra o
Other Names: Indian Saffron, Golden spice
• Chemical Composition: Contains curcuminoids (curcumin, demethoxycurcumin, bisdemethoxycurcumin), essential oils (turmerone, zingiberene), proteins, carbohydrates, and minerals.
• Use o For Inflammation & Skin Health: Known for its strong anti-inflammatory and antimicrobial properties, helpful in wound healing and skin care.
• Medicinal Uses: o Anti-inflammatory o Antioxidant
o Antimicrobial
o Used to treat digestive problems, skin conditions, arthritis, and as an immunity booster.

7. Ghee

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• Biological Source: Obtained from clarified butter made by heating butter to separate milk solids and water, leaving pure butterfat.
• Synonym:
o English: Clarified butter o Hindi: Ghee o Sanskrit: Ghrita o Other Names: Desi ghee, Ayurvedic ghee
• Chemical Composition:
Contains saturated fats, monounsaturated fats, short-chain fatty acids (butyric acid), fat-soluble vitamins (A, D, E, K), omega-3 fatty acids, and antioxidants.
• Use o For Health & Skin: Supports digestion, nourishes body tissues, promotes immunity, and improves skin health.
• Medicinal Uses: o Anti-inflammatory o Antioxidant o Supports digestion and gut health
o Used in Ayurvedic medicine for rejuvenation (Rasayana) o Promotes wound healing and used as a base for many Ayurvedic formulations. [26]

8. Peppermint (Mentha piperita):
It is a popular herb and it is used in numerous forms. Peppermint oil when applied on the skin provides a cooling sensation. It is used in aromatherapy, bath preparation, mouth washes, toothpaste and topical preparations. It is used to calm pruritus, relieve irritation and inflammation and wound healing. [27]

9. Jatropacurcas:
It is known for various medicinal properties. It is having anti-microbial, anti-cancer, anti HIV , anti- bacterial, wound healing, etc. [28]
10. Honey:
Honey has been used since ancient times as a traditional medicine. Honey is having antioxidant, anti- tumor, anti-inflammatory, anti-microbial and cardiovascular potentiating agent. It is also used as a wound dressing and wound healing agent. Honey has been used to treat adult and neonatal postoperative infections, burns, necrotizing fasciitis, infected and nonhealing wounds and ulcers, boils, pilonidal sinus, venous ulcer and diabetic foot ulcers.[29,30]
10. Marigold (Calendula officinalis):
It is a short lived aromatic herbaceous perennial plant. It is a flower/plant which that has been used for centuries for ornamental purpose, cosmetic and medicinal purpose. Calendula is one of the top herbs and can be taken orally, it is one of the most powerful antioxidant and it is one of the strongest antiviral herbs. It is having anti-inflammatory, calms muscle spasm, heals ulcers, wounds, and hemorrhoids, aids menstruation, contains antimicrobial and antiviral components, improves oral health.[31]

II. CONCLUSION

A comprehensive herbal conclusion on tinea pedis (athlete's foot) is that several botanical extracts and remedies have shown antifungal and anti-inflammatory properties, providing symptomatic relief for mild cases. However, robust scientific evidence is often limited, with most studies being small-scale or decades old. Conventional antifungal medications are more reliably effective for achieving a complete mycological cure, and a combined approach may be appropriate for some patients.

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