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Natural Herbal Remedies for Skin Diseases

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ABSTRACT

The skin, which covers the entire body, is the largest organ and serves as the primary barrier of protection. Skin diseases are numerous and a common health issue that affects individuals of all ages, from newborns to the elderly, causing various types of harm. Wild plants and their parts are often used to treat skin diseases. This practice, as old as humanity itself, is considered cost-effective, safe, and provides suitable raw material for developing new synthetic agents too. Certain potent medicinal herbs can completely cure or greatly reduce infections and skin conditions. Over the past two decades, herbal therapy has gained popularity among patients looking for alternatives to conventional Western allopathic medicine. Many turn to these alternatives because traditional treatments have not provided sufficient relief, or they believe natural products have fewer side effects. In this review article we discussed some plants for few common skin diseases such as Urticaria, Rosacea, Atopic dermatitis, Psoriasis, Vitilgo.

Keywords – Skin diseases, topical appliaction, anti inflammatory, herbal plants, natural remedy.

Introduction

Skin diseases are prevalent among populations in many developing countries, yet they are often not considered a significant issue that warrants public health interventions. Instead, more attention is typically given to less common health problems within these countries. This oversight stems from the perception that skin diseases are benign, non-life-threatening, and minor inconveniences that do not justify substantial measures. However, there appears to be a considerable demand from both patients and healthcare workers in some countries for greater attention to be given to skin diseases.(1)

Skin diseases refer specifically to disorders that affect primarily the superficial layers of the skin. Conditions such as leprosy, endemic treponematoses, and various forms of filariasis, which have occasional or secondary skin manifestations, are excluded from this discussion due to the extensive existing literature on them. Additionally, diseases like measles, chickenpox, and dengue fever, which frequently involve the skin, are not included. Deep skin and soft tissue infections (such as erysipelas, cellulitis, and abscesses) are also not considered, except when they are discussed as complications of superficial infections. Burns and traumatic sores are similarly excluded.

The term "common disorders" refers to diseases that are prevalent in the general population, with a prevalence rate exceeding 1%, or those frequently encountered at primary or peripheral healthcare levels. This practical definition is elaborated upon further in the document. Given that some disorders may be uncommon in certain areas but prevalent in others, geographical specificities and consistent features need to be noted. Certain conditions, such as leishmaniasis, mycetomas, and infections caused by Mycobacterium ulcerans, are excluded from this discussion despite their occasional significant prevalence, as their management is highly specific to each condition.(2)

Some common skin diseases

1. Rosacea
2. Atopic dermatitis
3. Psoriasis
4. Vitilgo

1. Atopic dermatitis

Atopic dermatitis (AD) is a chronic inflammatory skin disease marked by complex immune system dysregulation and skin barrier dysfunction, presenting with various clinical phenotypes. This condition results in significant morbidity and severely affects patients' quality of life. The social stigma associated with visible skin lesions and the intense itching, which leads to skin trauma and severe sleep disturbances, contribute to this negative impact. Additionally,

AD is often the first manifestation in a series of allergic diseases, including food allergies, asthma, and allergic rhinitis, suggesting it may be part of a progression towards more severe allergic conditions affecting other epithelial barriers.(3)

Globally, atopic dermatitis affects between 2% and 20% of children, with notable regional and racial differences. The condition is more common in African, Oceanic, and Asia-Pacific regions compared to the Indian subcontinent and Northern/Eastern Europe. Research indicates adult prevalence rates of 10-14% in population-based studies. Although the incidence remains high in urban areas and high-income countries, there has been a rising trend in the incidence and prevalence of atopic eczema in Asia over recent decades.(4)

The development of AD is influenced by a combination of environmental and genetic factors. Environmental influences include climate, urban versus rural living conditions, air pollution, and microbiome imbalances. Genetic factors include a family history of atopy and mutations in the Filaggrin gene. Both environmental and genetic elements contribute to immune system dysregulation and skin barrier disruption, which lead to inflammation.(3)

Treatment

Chamomile (*Matricaria chamomilla)*

Herbs Dried and fresh flowers of the chamomile plant have been used medicinally around the world for many years. In vitro chamomile extracts inhibit both lipoxygenase and cyclooxygenase, and can also inhibit histamine release.38 Kamillosan® cream contains a mild chamomile extract as the active ingredient, which demonstrated no chamomile related allergen potential, and has been used for local therapy of AD.(5)In a partially double blind and randomized study carried out as a half side comparison, the cream was compared with hydrocortisone 0.5% cream, and with the vehicle cream as the placebo in patients suffering from medium degree AD. After a 2-week treatment, a mild superiority was demonstrated when compared to hydrocortisone 0.5% .

Evening primrose *(Oenothera biennis)*

A defect in the function of the enzyme delta-6-desaturase has been postulated as a factor in the development of AD. The rationale for using evening primrose oil rests in this functional defect. Delta-6-desaturase converts linoleic acid to gamma linoleic acid, and evening primrose oil is rich in gamma linoleic acid.(6) Supplementation with oral evening primrose oil for AD patients has demonstrated moderate and favorable fatty acid changes in their epidermis. Topically applied gamma-linoleic acid has also been shown to be effective for treating AD because of its anti-pruritic and anti-inflammatory effects.However, gamma-linoleic acid (GLA) contains pyrolizidine alkaloids, which can cause hepatotoxicity with chronic consumption.4 No toxicity data for topical preparations of evening primrose oil is available. Data on its effectiveness in treating AD is mixed, however. In a double blind, blocked crossover design with random assignment of 123 patients and another double blind, placebo-controlled study of 60 AD children in Sweden using Epogam® (Scotia) produced similar negative results. AD was unresponsive to evening primrose oil. Treatment of AD with GLA remains controversial.

Shiunko

Shiunko is a topical medication made from herbal extracts and is used to treat a range of conditions including AD. In a vehicle controlled study of nine patients, Shiunko was effective in four patients when compared to petrolatum, but in only one patient when compared with 3.5% saltwater. (7) This herb has antibacterial effects on Staphylococci and this is the proposed mechanism of action.This may be similar to the beneficial effects seen with topical fusidic acid (Fucidin Intertulle®, Leo Pharma), which is not an herbal preparation, but a topical antibacterial agent.53,54 Other alternative remedies listed to help eczema, but not necessarily AD include Witch Hazel, burdock and aloe vera and Oolong tea. Proper studies are very scant.(8)

2. Rosacea

Rosacea is a chronic inflammatory skin condition primarily affecting the convex areas of the face, such as the forehead, nose, cheeks, and chin. It impacts over 5% of the global population. A notable distinction between sexes is that symptoms generally appear earlier in women, typically between the ages of 30 and 50. Additionally, men are more susceptible to developing rhinophyma. Ethnicity also plays a role in the incidence of rosacea, with fair-skinned individuals being the most affected, followed by Asians and those with darker skin tones.(9)

In 2002, the National Rosacea Society Expert Committee (NRSEC) developed a practical classification and staging system for rosacea, which has been widely used by healthcare professionals to accurately diagnose and treat the condition. In 2017, the committee reconvened to update this classification, incorporating a better understanding of the disorder. The revised classification is phenotype-based, providing clearer parameters and guidelines. (10)

Treatment

Tanacetum parthenium

A recent study discovered that a 45-day treatment with 1 percent parthenolide-free extract (PFE) feverfew, found in Aveeno Daily Moisturizer Ultracalming, improved mild inflammatory acne by inhibiting the release of inflammatory markers from stimulated lymphocytes. Additionally, it reduced neutrophil chemotaxis, making it an effective treatment for rosacea.(11)

Camellia sinensis

Derivatives of green tea (Camellia sinensis) possess remarkable anticarcinogenic properties, along with the ability to reduce inflammation and provide antioxidants. These properties are particularly advantageous for individuals with rosacea, as the condition commonly involves intrinsic sun sensitivity.

Green tea may also mitigate reactions to ultraviolet light and reduce the visual signs and symptoms of rosacea. Additionally, it is known to help decrease skin barrier disruptions, a frequent issue for those with the disease.(12)

3. Psoriasis

Psoriasis is considered a skin disease, where the skin areas usually become thick and covered with silvery scales. Near about 125 Millions people in the world (2 to 3%) of the total population have psoriasis and suffer from an inflammatory, ugly skin disorder. A type of white blood cell (T cells) becomes overstimulated, then they direct the skin to heal the non-existent injury. These sites become inflamed, reddened, patches with the white scale on them. It occurs when skin cells suddenly rise from below the surface of the skin and pile up on the surface before they can mature. Psoriasis may occur in only a few days. Psoriasis is derived from the Greek word s which means "itch". Psoriasis may burn or itch.(13) The skin may crack or split in areas that bend. Psoriasis is mostly inherited and mainly characterized by erythematous, plaques, sharply marginated scaly that develop in a relatively symmetrical distribution. Psoriasis is a chronic autoimmune disorder in which the tips of fingers, scalp, toes, palms, umbilicus, elbows, shin, glutes, knees, under the breasts, soles, etc. are mostly affected sites. Patients suffering from psoriasis are at higher risk of developing cardiovascular and NCDs. Moreover, psoriasis affects mental health, and people suffering from the disease experience significant social stigma. (14)

Treatment

Ziziphus spina (Christi)

The name 'Ziziphus' is often erringly written as Zizyphus. The generic name is derived from the latinized version of the Arabic vernacular name 'zizouf' for Z. jujuba. The specific name is derived from its common name Christ thorn. Ziziphus spina-christi is a shrub and also a tall tree, having a height of 20 m & diameter of 60 cm. The bark is in light grey colour which is scaly and cracky. Leaves barren on the upper surface, finely growing below. The leaves contain various alkaloids, including ziziphine, amphibine, jubanine, linalool, alpha terpinol, diverse saponins. The roots are used to treat headaches, the spines or ashes of this species are applied on snake bites. Boiled leaves are applied on a different surface of wounds, also have antihelminthic and anti-diarrhetic properties. In Morocco, the fruits are used as astringent agent & an emollient. Young leaves of this species is used to reduce eye inflammations. (15)

Tinospora cordifolia (Giloy)

Tinospora cordifolia (Thunb.) Miers has long been a part of Ayurvedic medicine in India. Thisherb belongs to the family Menispermaceae with comm on names like Giloy, Gurcha, Amrita, Guduchi. It is found in India, Sri Lanka, Bangladesh, Myanmar, Thailand, China, Philippines, Indonesia, Malaysia, Vietnam, South Africa & North Africa. Giloy is a large climbing shrub with lengthy twining branches spreading extensively. The plant contains different active components like steroids, alkaloids, aliphatics, glycosides, & terpenoid lactones. These active ingredients are distributed in all parts of the plant. Giloy is a tonic and has aphrodisiac & diuretic properties. It is also a liver tonic, used in malarial and chronic fever. Studies have reported different medicinal properties of the plant, including antidiabetic, antispasmodic, antiperiodic, anti-arthritic, antioxidant, antimalarial, antistress, anantistress, antiallergic, antimalarial, hepatoprotective, antineoplastic, and immunomodulatory activities. (16)

Allium sativum (Garlic)

Garlic belongs to the family Liliaceae. It is mainly cultivated in central Asia, southern Europe, U.S.A and in India. Garlic bulbs contain 29% of carbohydrates, about 56% of proteins (albumin). The volatile oil of the drug is the chief active constituent and contains allyl propyl disulphide, diallyl disulphide, alliin and allicin. Garlic is used as disinfectant in pulmonary conditions. Garlic has antibacterial, antifungal, antiviral, and antiseptic properties from allicin. Allicin helps to kill the bacteria causing acne. (17)

Cactus

Several studies demonstrated that cactus fruit contain substantial quantities of important nutrients, vitamins, minerals and antioxidants. The cactus plant appears to be the finest source of phytochemicals of nutraceutical importance. Cactus plants are available as a whole because their bioactive components can be extracted from different parts of their anatomical structure flowers, fruits, cladode, roots and seeds. Cactus plants have been used by Americans for centuries as a dietary supplement. Cactus pear fruit has been used in traditional medicine for the treatment of different pathologies such as dyspnoea, ulcers, glaucoma, and liver diseases as well as to heal wounds and fatigue. The consumption of cactus fruits and their juices are recommended for their diuretic effect functions as hypoglycaemic agent, analgesic, anti-allergic, anti-inflammatory actions, and for gastritis (18)

Solanum nigrum L.(Black nightshade)

The black nightshade (and related species) are worldwide weeds of arable land, gardens, rubbish heaps, and soils rich in nitrogen, in moderately light and warm situations which occur from sea to montane level. Recent studies on agropastoralin Africa indicate that these plant resources play a significant role in nutrient food security and income generation. Therefore, worthwhile to note that the incorporation or maintenance of edible wild and non-cultivated plant resources could be beneficial to the nutritional marginal population or to certain vulnerable groups within-population especially in developing countries. (19)

4. Vitilgo

Leucoderma, commonly known as vitiligo, is a skin disorder marked by the loss of skin pigmentation, leading to depigmented patches. Ayurveda, an ancient medicinal system, provides a holistic approach to managing vitiligo using herbal remedies (Dravya Chikitsa). In this blog, we will delve into the

efficacy of Ayurvedic herbs and herbal formulations traditionally used to treat vitiligo, such as neem, bakuchi (*Psoralea corylifolia*), guduchi (*Tinospora cordifolia*), manjistha (*Rubia cordifolia),* and several others. (20)

Ginkgo Biloba

Ginkgo biloba, also known as the "maidenhair tree," is one of the oldest tree species on Earth, with its leaves and seeds long used in medicine. Ginkgo extracts have demonstrated effectiveness in treating various conditions such as allergies, varicose veins, premenstrual syndrome, headaches, and vertigo. Recently, ginkgo extracts have also been used to treat vitiligo. The treatment involves taking tablets of varying dosages orally once to three times daily for over three months.

The exact mechanism by which Ginkgo biloba acts in vitiligo is not fully understood, but it appears to be related to its anti-inflammatory, immunomodulatory, and antioxidant properties. Numerous studies support the efficacy of ginkgo in controlling vitiligo activity and inducing repigmentation of white macules, particularly when used alongside conventional therapies like corticosteroids and phototherapies. Additionally, recent studies highlight that ginkgo can be effective even when used alone. However, repigmentation results vary, likely due to genetic differences in populations, types of ginkgo extracts used, treatment duration, and dosage frequency. Ginkgo is generally safe and well-tolerated at therapeutic dosages (typically 120 mg/day), but daily dosages exceeding 240 mg may cause restlessness and gastrointestinal issues. Patients on anticoagulants should only take ginkgo under medical supervision to prevent excessive blood thinning and hemorrhaging.(21)

Cucumis Melo

Cucumis melo, commonly known as "Muskmelon," is a species in the Cucurbitaceae family. Extracts from Cucumis melo are rich in antioxidants and have high superoxide dismutase (SOD) activity, which is believed to help prevent melanocyte destruction due to oxidative stress in the early stages of vitiligo. Preliminary studies have evaluated the efficacy of a topical preparation containing Cucumis melo SOD and catalase in treating vitiligo. In these studies, the gel was applied to skin lesions followed by irradiation with natural or artificial narrowband UVB. While the treatment was safe, there was no significant difference in repigmentation rates compared to patients treated only with phototherapy. However, a different topical formulation containing phenylalanine, Cucumis melo extract, and acetyl cysteine has shown promise. When combined with narrowband UVB target phototherapy, this formulation was observed to be safe and effective, leading to improved repigmentation of skin lesions.(21)

1) Porter MJ. Seasonal change and its effect on the prevalence of infectious skin disease in a Gambian village. Trans R Soc Trop Med Hyg 1979;74:162-8.

2) Ridley M, Safranek M. Common skin conditions. Occasional paper (Royal College of General Practitioners), 1992; 58: 50.

3) Frazier W, Bhardwaj N. Atopic dermatitis: diagnosis and treatment. American family physician. 2020 May 15;101(10):590-8.

4) Berke R, Singh A, Guralnick M. Atopic dermatitis: an overview. American family physician. 2012 Jul 1;86(1):35-42.

5) Wang W, Wang Y, Zou J, Jia Y, Wang Y, Li J, Wang C, Sun J, Guo D, Wang F, Wu Z, Yang M, Wu L, Zhang X, Shi Y. The Mechanism Action of German Chamomile (*Matricaria recutita L.*) in the Treatment of Eczema: Based on Dose-Effect Weight Coefficient Network Pharmacology. Front Pharmacol. 2021 Sep 30;12:706836. doi: 10.3389/fphar.2021.706836. PMID: 34658853; PMCID: PMC8515037.

6) Williams HC. Evening primrose oil for atopic dermatitis. BMJ. 2003 Dec 13;327(7428):1358-9. doi: 10.1136/bmj.327.7428.1358. PMID: 14670851; PMCID: PMC292973.

7) Higaki S, Kitagawa T, Morohashi M, Yamagishi T. Efficacy of Shiunko for the treatment of atopic dermatitis. J Int Med Res. 1999 May-Jun;27(3):143-7. doi: 10.1177/030006059902700305. PMID: 10505304.

8) Vender, Ronald. (2002). Alternative treatments for atopic dermatitis: a selected review. Skin therapy letter. 7. 1-5.

9) van Zuuren EJ. Rosacea. New England Journal of Medicine. 2017 Nov 2;377(18):1754-64.

10) Rainer BM, Kang S, Chien AL. Rosacea: Epidemiology, pathogenesis, and treatment. Dermato-endocrinology. 2017 Jan 1;9(1):e1361574.

11) Kang EJ, Kam EY, Kim SH, Yoon SY, Jeon SH, Choi JW, Kim JH, Park SY, Jung MY. Herbal Medicine for the Treatment of Rosacea: A Systematic Review and Meta-analysis of Randomized Controlled Trials. The Journal of Korean Medicine Ophthalmology & Otolaryngology & Dermatology. 2021;34(3):27-54.

12) Koch W, Zagórska J, Marzec Z, Kukula-Koch W. Applications of Tea (*Camellia sinensis*) and its Active Constituents in Cosmetics. Molecules. 2019 Nov 24;24(23):4277. doi: 10.3390/molecules24234277. PMID: 31771249; PMCID: PMC6930595.

13) Lowes MA, Suarez-Farinas M, Krueger JG. Immunology of psoriasis. Annual review of immunology. 2014 Mar 21;32(1):227-55.

14) Griffiths CE, Barker JN. Pathogenesis and clinical features of psoriasis. The Lancet. 2007 Jul 21;370(9583):263-71.

15) . Setty AR, Sigal LH, editors. Herbal medications commonly used in the practice of rheumatology: mechanisms of action, efficacy, and side effects.

16) Kumar A. Nautiyal, Himani,Fight psoriasis naturally through ayurveda. Indo Am J Pharm Res. 2016;6(2):6280–9.

17) Abraham N. Management of psoriasis -ayurveda and allopathy-A review. Int J Dermatol Clin Res. 2022;5(1):18–23.

18) Tamboli, Firoj & Kokate, Priti & Shaikh, Arbaz & Shinde, Anilkumar & Namdeo, Ajay & Alaskar, Kamal. (2022). Important medicinal plants for management of psoriasis. Indian Journal of Pharmacy and Pharmacology. 9. 122-127. 10.18231/j.ijpp.2022.021.

19) Anzoom, Sifat & Tahsin, Md & Kabir, Shaila & Amran, Md. (2023). A Comprehensive Review on Black Nightshade (Solanum Nigrum): Chemical Constituents, Pharmacological Activities and Its Role in COVID-19 Treatment: A comprehensive review on black nightshade. Journal of the Asiatic Society of Bangladesh, Science. 49. 237-263. 10.3329/jasbs.v49i2.70771.

20) Bergqvist C, Ezzedine K. Vitiligo: a review. Dermatology. 2020 Mar 10;236(6):571-92.

21) Gianfaldoni S, Wollina U, Tirant M, Tchernev G, Lotti J, Satolli F, Rovesti M, França K, Lotti T. Herbal Compounds for the Treatment of Vitiligo: A Review. Open Access Maced J Med Sci. 2018 Jan 21;6(1):203-207. doi: 10.3889/oamjms.2018.048. PMID: 29484024; PMCID: PMC5816300