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Plant-Based Therapies for Psoriasis Management

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Abstract
This study assesses the therapeutic efficacy of herbal interventions in the psoriasis management. The research investigates the pharmacological properties of phytochemical compounds, their mechanisms of action, and clinical benefits, to provide patients with evidence-based complementary therapeutic options while minimizing adverse effects. Deregulated T-lymphocyte-mediated immune responses cause erythematous, scaly plaques, which are the hallmark of psoriasis, a chronic inflammatory dermatosis. The condition encompasses two primary classifications: pustular psoriasis, including generalized pustular and palmoplantar variants, and plaque psoriasis, with psoriasis vulgaris representing the most prevalent subtype and carrying potential for systemic complications. The etiology remains incompletely understood, though immunological dysfunction and genetic predisposition are established as key pathogenic factors. Aberrant autoimmune responses are the principal drivers of accelerated keratinocyte proliferation in psoriasis, a process largely mediated by activated T-cells and the release of pro-inflammatory cytokines. Genetic susceptibility is evidenced through associations with specific HLA allotypes and polymorphisms at the PSORS1 locus. Environmental triggers, including streptococcal infections, viral illnesses, and physical trauma (Koebner phenomenon), may precipitate disease onset in genetically predisposed individuals. Psychological stress represents an additional contributory factor that can exacerbate disease activity through disruption of neuroendocrine, autonomic, and immune pathways. The findings demonstrate that herbal therapeutics constitute a safe and efficacious treatment modality for psoriasis. Bioactive botanical compounds exhibit anti-inflammatory and antipruritic properties whilst modulating immune system homeostasis. This therapeutic approach results in reduced treatment-related morbidity and enhanced patient outcomes.

Introduction

Psoriasis is a chronic inflammatory skin disorder, clinically characterized by erythematous plaques covered with silvery-white scales and often accompanied by itching. The condition is believed to arise from an immune system response involving T lymphocytes, with genetic factors such as HLA-B13, HLA-B17, DR7, and CW6 contributing to susceptibility. Psoriasis is classified into two major groups: pustular psoriasis and plaque psoriasis. Plaque psoriasis, accounting for approximately 90% of cases, presents with red plaques covered in pearly scales, often symmetrically located on the knees, elbows, scalp, and hips. "Pustular psoriasis encompasses several variants, including generalized pustular psoriasis, annular pustular psoriasis, and palmoplantar pustulosis. Herbal treatments, alongside conventional medicine, have demonstrated efficacy in managing psoriasis by reducing inflammation, alleviating itching, and promoting healthy skin. These natural remedies offer a safe and alternative approach to conventional therapies.

The exact etiology of psoriasis remains under investigation. However, exogenous variables including external trauma, influenza-like diseases, and streptococcal infections can act as triggers in genetically susceptible people. Stress and personality traits have also been implicated in exacerbating the condition, though the precise mechanisms remain unclear. Psoriasis

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susceptibility 1 (PSOR1) on chromosome 6 is identified as a genetic locus influencing the disease.

Psoriasis is further complicated by systemic effects, such as hypothermia and complications related to protein loss, edema, and cardiovascular and renal issues, resulting from widespread inflammation. In psoriasis, the inflammatory process is primarily mediated by T cells, which interact with dermal dendritic cells and trigger excessive keratinocyte proliferation. This process is accompanied by the release of pro-inflammatory cytokines, particularly tumor necrosis factor (TNF) and interleukin-17 (IL-17).

In summary, psoriasis is a complex, multifactorial disease with genetic and environmental influences, manifesting as chronic inflammatory skin lesions. Herbal therapies provide a complementary approach to conventional treatment, offering relief through natural ingredients. Improved diagnostic and treatment approaches for this common ailment require more investigation into the interactions of genetic, immunological, and environmental variables.

Pathophysiology of Psoriasis

Dysregulated immune responses constitute the central pathophysiological mechanism underlying psoriasis. In this condition, aberrant immune activation targets keratinocytes, resulting in markedly accelerated epidermal proliferation. This pathological process manifests as erythematous, hyperkeratotic, and pruritic plaques. These cells release IL-23, IL-12, and TNF-α, which promote T-helper lymphocyte activation and development, especially Th1 and Th17 cells. Because they secrete IL-17A, IL-17F, and IL-22, Th17 cells are essential, cytokines that drive abnormal keratinocyte proliferation, impair differentiation, and amplify the inflammatory response. In turn, activated keratinocytes release antimicrobial peptides (AMPs), chemokines, and proinflammatory cytokines, which recruit additional immune cells to the dermis and epidermis—creating a self-perpetuating inflammatory loop (Wu et al. 2025).

The result is epidermal hyperplasia, parakeratosis, and angiogenesis, which manifest clinically as the characteristic erythematous plaques with silvery scales seen in psoriasis.

The disease involves immune cell infiltration of the epidermis and dermis, precipitating abnormally rapid keratinocyte turnover. Normal epidermal transit time of approximately 28 days is reduced to 3-5 days, leading to the formation of characteristic thick, erythematous, and intensely pruritic lesions. This accelerated cellular proliferation triggers a self-perpetuating inflammatory cascade, leading to the chronic persistence of symptoms.

The resultant cutaneous manifestations present as well-demarcated, erythematous, hyperkeratotic plaques that cause significant patient morbidity and functional impairment. Chronic inflammation serves as both a consequence and driver of disease progression, while genetic predisposition plays a fundamental role in disease susceptibility.

Familial clustering demonstrates significant heritability, with first-degree relatives exhibiting substantially elevated risk of disease development. The chronic relapsing-remitting nature of psoriasis is characterized by periods of symptom exacerbation and relative quiescence, contributing to the long-term burden of this condition.

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Medicinal Uses

Berberis aristata, commonly known as Indian barberry or tree turmeric, represents one of the most therapeutically significant medicinal shrubs distributed across Asia, with extensive traditional applications in indigenous and folk medicine systems, particularly within Ayurvedic and Unani pharmacological frameworks. Its substantial therapeutic legacy is increasingly supported by contemporary scientific evidence elucidating diverse pharmacological properties. Berberine, the primary bioactive alkaloid constituent, demonstrates broad-spectrum antimicrobial activity encompassing antibacterial, antiviral, and antifungal properties. Traditional extraction protocols utilize the root and bark components, with *Berberis aristata* preparations employed therapeutically for wound healing, ocular infections, and dermatological conditions.

Berberine has demonstrated antimicrobial efficacy against a wide range of pathogenic organisms, including clinically significant bacteria such as *Staphylococcus aureus* and *Escherichia coli*. Consequently, *Berberis aristata* preparations are utilized in the management of gastroenteritis, urinary tract infections, and various bacterial infectious diseases, reflecting both traditional therapeutic applications and emerging evidence-based clinical utility (Rahman et al., 2012).

In metabolic disorders, *Berberis aristata* demonstrates significant therapeutic potential with established anti-diabetic properties. Traditional practitioners have employed this botanical agent for centuries in glycaemic management protocols (Lin et al., 2024). Contemporary research substantiates these historical applications, demonstrating that berberine enhances insulin sensitivity, facilitates glucose uptake at the cellular level, and modulates enzymatic pathways involved in carbohydrate metabolism.

These mechanisms collectively contribute to improved glucose homeostasis and metabolic regulation, providing scientific validation for the traditional therapeutic use of *Berberis aristata* in diabetic management (Li et al., 2022).

Scientists and medical experts are very interested in type 2 disaccharides as an adjuvant treatment. One notable medicinal application is the preservation of liver health. *Berberis aristata* is recognized for its hepatoprotective properties, which help safeguard liver cells from damage caused by conditions such as hepatitis and other infections. This plant aids in detoxification and enhances liver activity, making it relevant in traditional remedies for liver-related ailments, including jaundice and other hepatic disorders (Li et al., 2023).

In folk medicine, extracts of *Berberis aristata* are also utilized for managing joint pain, arthritis, and inflammation. Recent pharmacological research has demonstrated the effectiveness of berberine and other alkaloids in treating inflammatory illnesses by highlighting their function as anti-inflammatory mediators (Gaikwad et al., 2022). Additionally, berberine has been shown to reduce cholesterol and triglyceride levels in the blood, improving the overall lipid profile and potentially mitigating atherosclerotic plaque formation in arteries. These effects contribute to its traditional use in controlling hypertension and cardiovascular diseases.

Traditionally, *Berberis aristata* has been used to manage gastrointestinal disorders, including diarrhea and dysentery. Its ability to effectively and economically modulate gut microbiota and exert anti-diarrheal effects during

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gastrointestinal infections is well recognized. Berberine has been shown in lab trials to cause apoptosis, or programmed cell death, in a variety of cancer cell types, including those from the chest, large intestine, and prostate. This property positions berberine as a promising candidate for adjuvant cancer therapy.

Pro-inflammatory cytokines, specifically tumour necrosis factor-alpha (TNF-α), interleukin-17 (IL-17), and interleukin-23 (IL-23), which are key mediators of psoriatic inflammation, are suppressed by the alkaloid's immunomodulatory actions. Berberine additionally demonstrates the capacity to regulate T-helper cell differentiation, potentially reducing the Th1 and Th17 responses that drive psoriatic lesion formation.

The antimicrobial properties of *Berberis aristata* may provide ancillary benefits in psoriasis management, particularly given the established role of streptococcal infections as disease triggers. Furthermore, berberine's established effects on cellular proliferation may help normalise the accelerated keratinocyte turnover characteristic of psoriatic plaques (Goel et al., 2025).

Topical applications of *Berberis aristata* extracts have demonstrated efficacy in reducing erythema, scaling, and pruritus associated with psoriatic lesions. The herb's anti-inflammatory and antimicrobial properties, combined with its favorable safety profile, position it as a promising complementary therapeutic option in comprehensive psoriasis management protocols, potentially offering reduced systemic adverse effects compared to conventional immunosuppressive therapies.

Furthermore, its **i**mmunomodulatory action enhances the body's innate defense mechanisms, promoting overall well-being. The clinical efficacy of berberine in treating conditions such as aging, diabetes, liver protection, inflammation, cardiovascular issues, gastrointestinal disorders, and cancer underscores its value in traditional Chinese herbal medicine. Ongoing scientific research continues to elucidate its mechanisms of action, paving the way for its integration into contemporary therapeutic regimens (Herman et al., 2016).

Allopathic Treatments

Conventional allopathic management of psoriasis involves a multimodal therapeutic strategy that includes topical corticosteroids, systemic anti-inflammatory drugs, immunosuppressants, and targeted biologic therapies. These interventions collectively aim to attenuate pruritus, inflammation, and erythema whilst achieving disease control and symptomatic relief. Phototherapy represents an additional therapeutic modality employed in selected cases.

Topical corticosteroids provide rapid symptomatic improvement through potent anti-inflammatory mechanisms, whilst systemic anti-inflammatory and immunosuppressive agents modulate aberrant immune responses characteristic of psoriatic pathophysiology. Biological agents demonstrate particular efficacy through selective targeting of specific immune mediators, including TNF-α, interleukin-17, and interleukin-23 pathways, resulting in substantial clinical improvement and enhanced patient quality of life outcomes.

Phototherapy, including psoralen plus ultraviolet A (PUVA) and narrowband ultraviolet B (NB-UVB) procedures, utilises controlled electromagnetic radiation exposure to achieve therapeutic benefit through immunomodulatory and antiproliferative mechanisms.

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Both NB-UVB and PUVA are effective phototherapy options for treating psoriasis, each with its unique mechanisms, protocols, and benefits. The degree of psoriasis, patient preferences, and possible adverse effects all influence the choice between them. Regular monitoring and a tailored approach are essential for optimizing treatment outcomes. Psoralen, a photosensitising chemical, and UVA light (320–400 nm) are used in PUVA therapy. This method is particularly effective for more severe cases of psoriasis (Vigueras et al., 2025). NB-UVB therapy utilizes a specific wavelength of ultraviolet light (around 311-313 nm) that is particularly effective in treating psoriasis. NB-UVB helps to reduce the proliferation of skin cells and modulates the immune response, which is often overactive in psoriasis. It reduces the skin's inflammatory response, thereby diminishing scaling and redness. Narrowband UVB (NB-UVB) therapy carries a lower risk of adverse effects such as skin aging and carcinogenesis compared to PUVA. (Qasem et al., 2025). Furthermore, NB-UVB can be administered in outpatient settings, making it accessible for many patients

Whilst these conventional approaches demonstrate established clinical efficacy in symptom amelioration, treatment-associated morbidity remains a significant consideration. Adverse effects of prolonged corticosteroid use include cutaneous atrophy, telangiectasia, and striae formation, whereas systemic therapies may lead to hepatotoxicity, nephrotoxicity, increased susceptibility to infections, and an elevated risk of malignancy. Phototherapy-related complications encompass acute phototoxicity, premature photoaging, and potential carcinogenesis with cumulative exposure, necessitating careful risk-benefit assessment in treatment selection. Mitigation of phototherapy-associated adverse effects requires comprehensive preventive strategies and rigorous monitoring protocols. Pre-treatment assessment should include detailed phototype classification, medication review for photosensitising agents, and evaluation of personal or family history of skin malignancy.

Protective measures encompass precise dosimetry calculations based on minimal erythema dose (MED) determination, with gradual dose escalation protocols to minimize acute phototoxic reactions. Eye protection using UV-opaque goggles is mandatory, whilst genital shielding prevents unnecessary radiation exposure to photosensitive areas. Regular dermatological surveillance is essential, incorporating baseline photography and systematic monitoring for dysplastic lesions, with particular attention to cumulative exposure limits. For narrowband UVB, lifetime exposure should typically not exceed 200-300 treatments, whilst PUVA therapy requires more stringent monitoring due to enhanced carcinogenic potential.

Patient education regarding post-treatment photoprotection is crucial, including avoidance of additional UV exposure for 24-48 hours following treatment and consistent use of broad-spectrum sunscreens. Concurrent use of topical moisturisers helps mitigate treatment-related xerosis and maintains epidermal barrier function.

Treatment modifications, including dose reduction, treatment frequency adjustment, or therapy discontinuation, should be implemented promptly upon identification of concerning cutaneous changes (Chaudry et al., 2025). Alternative therapeutic modalities should be considered for patients with high-risk features or those nearing cumulative exposure limits, in order to maintain an optimal risk-benefit balance throughout the course of treatment.

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Herbal Treatment

Herbal remedies for psoriasis have garnered interest as natural and potentially safer alternatives to conventional treatments. Herbs such as *Aloe vera*, neem, turmeric, chervil, and basil are commonly used to reduce inflammation, relieve itching, and promote skin healing. The antioxidants and anti-inflammatory compounds in these herbs help maintain healthy skin and may prevent the recurrence of symptoms.

In contrast, synthetic drugs for psoriasis treatment include retinoids (e.g., acitretin), immunosuppressants (e.g., methotrexate), and biologics (e.g., infliximab). While effective, these medications may have side effects and are not always well-tolerated. Herbal treatments, on the other hand, are considered safer, with fewer adverse effects and a lower risk of systemic complications.

Nutrition and lifestyle modifications can significantly alleviate psoriasis symptoms alongside herbal treatments. Approaches such as fasting, low-energy diets, and vegetarian diets have shown beneficial effects by reducing inflammation and promoting overall skin health. Vitamin E, sourced from nuts and seeds, and omega-3 fatty acids from fish oils can enhance anti-inflammatory effects and support immune regulation. Additionally, regular exercise and stress-reduction practices such as yoga and meditation, ensuring adequate hydration, and avoiding common triggers such as alcohol and processed foods are essential strategies for improving skin health and reducing flare-ups in psoriasis patients (Lumbrano et al., 2025).

Capsaicin, the active compound in cayenne pepper, has been studied for its potential therapeutic effects in managing psoriasis, particularly due to its ability to reduce inflammation and alleviate itching. Substance P, a neuropeptide implicated in neurogenic inflammation, which is common in psoriasis lesions, is broken down by it. Aloe vera extract cream dramatically decreased psoriatic plaques, according to a double-blind, placebo-controlled trial. The chemicals acemannan and anthraquinone were found to have therapeutic benefits. Skin infections like *Staphylococcus* and *Candida* are susceptible to the antibacterial and antifungal effects of chamomile oil. Its flavonoids, apigenin and kigetin, are strong inhibitors of lipoxygenase, which may have potential applications in psoriasis treatment. However, further testing is required to confirm their efficacy.

While herbal treatments offer promising benefits, certain herbs may have systemic adverse effects or trigger allergic reactions. For instance, hogweed contains psoralen but lacks sufficient efficacy and safety data. Additionally, methylsalicylate in wintergreen oil, despite being applied topically to treat psoriasis, it can cause systemic side effects, including tinnitus, vomiting and gastrointestinal issues.

In summary, herbal remedies for psoriasis offer a promising, natural, and potentially safer alternative to conventional treatments. To completely comprehend their mechanisms of action, optimise dosages, and evaluate long-term safety and efficacy, more research is necessary. Managing the symptoms of psoriasis can also be greatly aided by dietary and lifestyle changes.

Zedoary turmeric oil, derived from the rhizome of *Curcuma zedoaria*, has been explored for its potential therapeutic applications, including the treatment of psoriasis. Due to its renowned anti-inflammatory, antibacterial, and

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antioxidant properties, this oil may be beneficial in managing skin disorders such as psoriasis **(**Jang, J, J, 2023).

Bioactive ingredients found in zedoary turmeric oil may help lessen psoriasis-related inflammation. By inhibiting pro-inflammatory cytokines and mediators **(**Cozmin et al., 2024), it can alleviate the redness, swelling, and discomfort associated with psoriatic lesions. The antibacterial properties of zedoary turmeric oil may help prevent secondary infections of psoriatic plaques, a common complication arising from disrupted skin barriers. Additionally, its antioxidant effects can protect skin cells from oxidative stress, which is often heightened in inflammatory conditions such as psoriasis (Kshirsagar et al., 2025). The application of zedoary turmeric oil in injection form may provide a direct and effective method for delivering its therapeutic benefits to affected areas. This route can enhance absorption and provide localized treatment, potentially leading to quicker relief from symptoms (Anwar et al., 2025). Although injections of zedoary turmeric oil can be used in addition to traditional treatments (such as topical corticosteroids or systemic medications), consulting medical experts is crucial for individualized treatment regimens.

Herbal Treatment for Psoriasis

Psoriasis is an ancient immune-mediated dermatosis that commonly affects the lower back, scalp, elbows, and knees. It is characterized by keratinocyte dysplasia and inflammation, leading to the formation of erythematous plaques. Despite advances in pharmacological treatments such as corticosteroids, vitamin D analogues, immunosuppressants, and biologics, conventional therapies remain limited by side effects, high costs, and recurrence upon withdrawal (Mai et al. 2025). Across societies, long-term management strategies often incorporate complementary and alternative therapies.

Medicinal herbs with wound-healing, antioxidant, immunomodulatory, and anti-inflammatory properties have often been effective in alleviating scaling, erythema, and pruritus associated with psoriatic plaques.

Herbal Action Mechanisms

The botanical world of indigo, *Mahonia aquifolium* barrel Oregon grape, Curcuma longa (turmeric), and aloe vera, for example, has undergone multiple clinical trials and experiments to determine their effectiveness in treating psoriasis. Important cytokines and immunological mediators such as TNF-α, IL-17, IL-23, and NF-κB signal pathways are all modulated by the herbs. These are the primary causes of psoriasis. “Additionally, phytochemicals such as phenolics, alkaloids, terpenoids, and flavonoids initiate antioxidant processes that protect skin cells from oxidative damage and support their repair

Evidence and Frequently Used Herbs

Anti-inflammatory and hydrating properties

Clinical research has demonstrated that topishu aloe vera extract reduces the severity of plaque, scaling, and redness while minimizing adverse effects. His glycoproteins and sugar hydrate and repair. Inhibits abnormal keratinocyte growth and modifies inflammatory cytokines. Although it has been shown that both topical and oral curcumin formulations can improve psoriasis lesions and patients' quality of life, bioavailability is an issue. Standardised mahonia extracts

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significantly reduced scaling, erythema, and stiffness when added to lotions and ointments for mild to moderate psoriasis. The two most potent substances such as indorubin and tryptoartin, reduce plaque thickness, alter immunological function, and inhibit keratinocyte proliferation. Clinical investigations have shown a moderate improvement in scaling and irritation. For some people, initial stinging may limit use. Topical treatments have been shown to improve lesion healing and reduce inflammation. *Aloe vera* gel's calming, anti-inflammatory, and skin-repairing properties are well known (Chen et al., 2024). Curcumin, a strong antioxidant and immunomodulator found in *Curcuma longa* (turmeric), helps lessen psoriatic inflammation. Traditional Chinese medicine uses indigo naturalis, which has demonstrated notable effectiveness in lowering erythema and plaque thickness. Similarly, extracts of neem **(***Azadirachta indica***),** *Luvia kordifolia*, and *Mahonia aquifolium* have demonstrated antipsoriatic properties by modulating immune responses and inhibiting keratinocyte proliferation,), Polyhar hard cream is a well-liked herbal remedy for psoriasis because of its anti-inflammatory and detoxifying qualities. Additionally, herbal oils and baths are commonly used to provide relief and stress reduction. This is particularly important when combining herbal therapies with synthetic drugs, as potential interactions may occur (Burlec et al., 2024).

Meta-analyses have demonstrated that herbal extracts, including those from plants such as *Calendula*, can enhance overall quality of life and reduce the severity of psoriasis symptoms. These herbs support well-being in many facets of life, improve skin function, and regulate the immune system, including the eye, vegetative, genital, and gastrointestinal systems.

Future research should prioritize well-designed, extensive randomized controlled studies (RCTs) to learn more about the safety and effectiveness of herbal remedies. Optimising treatment outcomes also requires an understanding of molecular pathways and the standardization of extracts.

Technological advancements, including nanotechnology and progress in phytochemistry, are being explored to develop novel herbal remedies for psoriasis that are more effective, targeted, and better tolerated. Furthermore, to guarantee the long-term availability of medicinal plants and save the ecosystem, emphasis must be placed on ethical supply chains and sustainable farming methods.

Herbal Therapy

Herbal therapies, particularly those containing anti-inflammatory, immunomodulatory, and antioxidant properties, hold promise as adjunct treatments for psoriasis. While traditional knowledge and advocacy for herbal medicine exist, a shift towards clinical application requires robust scientific evidence, thorough safety assessments, and integration into evidence-based dermatological practice.

In order to bridge the gap between traditional herbal knowledge and contemporary scientific understanding, education is essential. We can encourage the responsible use of herbal medicines and guarantee their incorporation into routine care by educating patients and medical professionals (Affandi et al, 2025). Combining traditional knowledge with contemporary scientific research will ultimately lead to better outcomes for psoriasis patients.

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In conclusion, herbal therapies have the potential to be valuable adjunct treatments for psoriasis. However, to achieve this goal, safety profiles, incorporation into evidence-based dermatological practice, and solid scientific proof are required. To maximize the advantages of herbal medicine in the treatment of psoriasis and other illnesses, education and cooperation between traditional and modern knowledge systems are crucial.

***Ulmus rubra* (Slippery Elm)**

Slippery elm, traditionally used by Native Americans, is valued for the mucilaginous properties of its inner bark, which have been employed in soothing and protective remedies. It has been used as an envelope for wounds or strokes. In modern times, Slippery elm is used to treat ailments like cystitis, reflux, and irritable bowel syndrome. Intestinal permeability and psoriasis symptoms significantly improved in a study of patients with persistent plaque psoriasis who followed a 6-month dietary program.

Phosphorylase kinase (PHK), an enzyme present in the epidermis of people with active psoriasis, is thought to be inhibited by the anti-inflammatory properties of slippery elm, such as curcuminoids and volatile oils. In groups treated with curcumin and calcipotriol, reduced PHK activity was associated with increased expression of keratinocyte migratory receptors and higher epidermal CD8+ T cell density. Additionally, slippery elm extracts and their primary constituents—oxyacanthine, berberine, and berbamine—were found to inhibit lipid peroxidation and the activity of five lipoxygenases (Sharma et al., 2023). The extract also inhibits keratinocyte growth, with berbamine and oxyacanthine being more effective inhibitors.

Research indicates that slippery elm may modulate psoriasis at the molecular level by influencing NF-κB signaling biomarkers, as demonstrated in HaCaT cell assays. Additionally, it exhibits anti-apoptotic properties

Smilax Chinensis

***Smilax Chinensis* (Chinese Smilax)** is another plant with anti-inflammatory properties. On the Hacat cell line, quercetin, a flavonoid that was isolated from its rhizomes, showed an anti-proliferative activity that resulted in a notable decrease in white blood cell motility and epidermal thickness. By encouraging orthocatosis, the plant stimulates epidermal differentiation, just like conventional Tazarotene therapy does. Increasing relative epidermal thickness was used to assess traditional use in the treatment of psoriasis. HACAT human keratinocyte cell lines, mice tail models, and in vitro-SRB assays were used to evaluate the anti-psoriatic efficacy. The parasagittal area of the mouse tail developed odontitis, which had a major impact on the thickness of the epidermis. It is frequently combined with other herbs known for their skin benefits, enhancing its overall efficacy in treating psoriasis (Tian et al., 2021).

Dehydrated and thickened psoriasis is often associated with lipid imbalance and increased irritant sensitivity. To address these challenges, various drug delivery systems—such as liposomes, niosomes, ethosomes, microemulsions, nanoemulsions, and nanostructured lipid carriers (NLCS)—have been developed. These systems offer multiple advantages, including reduced systemic toxicity (niosomes), controlled drug release, deeper penetration into skin layers, long-term stability, high solubility (microemulsions),

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and enhanced skin absorption while protecting both the drug and the skin (nanoemulsions). Such delivery technologies significantly enhance the therapeutic efficacy of topical plant-based medications (Guo et al., 2024). Smilax chinensis, with its anti-inflammatory and detoxifying properties, shows promise as an adjunct herbal treatment for psoriasis; however, further studies are necessary to fully understand its efficacy and safety in managing this condition

Conclusion

Psoriasis is a chronic, persistent inflammatory dermatosis marked by well-demarcated erythematous plaques with silvery scales. It is primarily driven by T-lymphocyte–mediated immune responses, leading to abnormal keratinocyte proliferation and persistent inflammation. Several clinical variants exist, such as erythrodermic psoriasis, guttate psoriasis, and pustular psoriasis. “Although the exact cause of psoriasis is not fully elucidated, its pathogenesis is strongly influenced by genetic factors and immune system dysregulation. In addition, by upsetting immunological homeostasis and changing hormonal balance, external stimuli such as infections, trauma (Koebner phenomenon), and psychological stress can intensify disease activity. A dysregulated immune response, mainly involving the IL-23/Th17 axis, is the cause of psoriasis. Genetic predisposition, particularly polymorphisms in genes such as *HLA-Cw6* and *IL23R*, increases susceptibility. Environmental triggers, including infections, trauma, stress, or medications, can stimulate macrophages and dendritic cells, two types of innate immune cells.

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