

A Review on Collection of Herbs Used for the Treatment of Psoriasis

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ABSTRACT

The present study was aimed at collection of herbs for psoriasis. Indian medicinal plants are gaining popularity in treating several diseases. Due to the availability of plants and less side effects people are showing more interest in Indian medicinal plants than other source of medications. Psoriasis is an autoimmune disease that affects the skin. It is characterized by changes in the skin that include hyperkeratosis, parakeratosis. They can attribute to an increased mitosis level in the basal region of the epidermis, as well as disorders of maturing and differentiating keratinocytes. Psoriasis is a common and chronic disease with no cure. Psoriasis is an inflammatory state of condition and aloe vera mostly appears to have the anti-inflammatory properties. The bioactive compounds may be responsible for properties of all the plants that form the basis of their use in herbal medicine in India. Using herbal medicines and practicing herbalism are currently fashionable trends. The most widely used source of Indian herbs in the pharma industry is because of their abundance. Some phytoconstituents present in the plants are responsible for treating Psoriasis. The use of herbal products is expanding quickly worldwide as more people become aware of their cost-effectiveness and health benefits. This helps in supporting the review and future research for future studies and uses on different disorders faced due to various reasons. Further investigation and research is still required for the plants to explore various medicinal properties.

Keywords: Psoriasis, Anti-inflammatory properties, Phytoconstituents, Autoimmune disease.

I. INTRODUCTION

Psoriasis is an autoimmune disease that affects the skin. It is characterized by changes in

the skin that include hyperkeratosis, parakeratosis. They can attribute to an increased mitosis level in the basal region of the epidermis, as well as disorders of maturing and differentiating keratinocytes [1]. It will change in the layer of dermis and epidermis & can cause the typical desquamation of the stratum corneum observed in psoriasis. The psoriatic lesions indicate that an inflammatory reaction caused by the secretion of pro-inflammatory cytokines from macrophages, lymphocytes, and neutrophils. These pro-inflammatory cytokines may stimulate the inflammatory response through the lipoxygenase and the cyclooxygenase (COX) pathways. The red, scaling psoriatic plaques often itch and burn. Due to this psoriasis may suffer discomfort, including pain and itching and emotional distress psoriasis affects 1% - 2% of the population [2]. The symptoms of psoriasis may often require treatment. Then treatment can be difficult because the severity and the distribution of psoriatic plaques that varies most. This is localized psoriasis often responds to the topical medications, of that which steroid creams, vit D analogue creams, anthralin, coal tar and then high ultraviolet light treatments are the most common remedies. More generalized requirements of the skin may involve systemic treatments with retinoids, mostly immunosuppressants and PUVA or biologic medications [3]. Psoriasis is a common and chronic disease with no cure. It should be painful that interfere with sleep and it make hard to concentrate. The condition that can tends to go through the cycles, flaring for a weeks and months, and then subsided. The common triggers in people with a genetic predisposition to cause psoriasis that include some infections, cuts or burns, and certain medications. The effectiveness, cost and adverse

effects of these medications that can indicate the requirement for additional treatment [4].

II. TYPES OF PSORIASIS

1. Plaque psoriasis: It is most common form and it is characterized by red patches covered with white scales.



2. Guttate Psoriasis: Small and look like dot-like lesions, it should appear after a streptococcal infection.



3. Inverse Psoriasis: Smooth and produce red patches in skin folds, such as armpits, groin and knees.



4. Pustular Psoriasis: It can appear as white blisters surrounded by red skin and it can produce on hands and feet.



5. Psoriatic Arthritis: Joint inflammation, stiffness and pain, this combined with skin symptoms.



6. Erythrodermic Psoriasis: It is rare, widespread redness and scaling, potentially life-threatening.



7. Nail Psoriasis: Nail abnormalities such as thickening, pitting or separation.



SYMPTOMS

Common symptoms include:

- Red patches of skin covered with thick, silvery scales.
- Small scaling spots.
- Dry, cracked skin that may bleed or itch.
- Itching, burning or soreness.

- Thickened, pitted or ridged nails and swollen, stiff joints [5]

III. HERBS USED IN PSORIASIS

1. ALOE VERA (*Aloe barbadensis*)



Aloe vera is obtained from the *Aloe barbadensis* Miller plant and belongs to the family Liliaceae. Aloe vera is a type of succulent plant which is filled with the gel of leaves. It plays a vital role in traditional medicines since ancient period. Many of the people have used aloe vera gel for 1000's of years to treat a skin disease mainly psoriasis [6].

Reduces Inflammation

Psoriasis is an inflammatory state of condition and aloe vera mostly appears to have the properties of anti-inflammatory [7]. Aloe vera gel can help to reduce the inflammation that leads to symptoms of psoriasis and it improves hydration.

2. TURMERIC (*Curcuma longa*)



Curcumin is obtained from *Curcuma longa* and belongs to the family of Zingiberaceae [8]. Curcumin gel may help relieve psoriasis when combined with:

- Topical steroids
- Antibiotics and avoidance of allergens

Turmeric has specific active ingredient curcumin, and it has several actions that can be useful for psoriasis:

Actions Against Psoriasis:

1. **Anti-Inflammatory:** Turmeric helps to reduce the inflammation that which is inhibiting by various inflammatory pathways, that can help to relieve the redness and swelling of related with psoriasis.
2. **Antioxidant:** It has a strong property of antioxidant that conflict conditions of oxidative stress and ability of helping to protect from damage of skin cells [9].
3. **Immune Modulation:** Curcumin can help to modulate the immune response, which is an autoimmune condition that where the immune system attacks healthy skin cells.

Uses of Turmeric for Psoriasis

1. Topical Applications: Turmeric Paste: Mix this turmeric powder with water or coconut oil to create a paste. Apply at affected areas to soothe irritation and reduce inflammation. Turmeric Creams or Ointments [10].

2. Dietary Incorporation: Add the turmeric to any dishes like soups, curries. This can provide the systemic benefits through its anti-inflammatory activity.

4. Turmeric Baths: Adding turmeric powder to a warm bath that may help to reduce itching and discomfort.

3. BARBERRY (*Berberis vulgaris*)



The barberry plant is also known as Mahonia aquifolium or Oregon grape. It belongs to the berberis genus and family Berberidaceae [11].

Barberry (*Berberis vulgaris*) is known for its potential anti-inflammatory and antioxidant properties, which may benefit skin conditions like psoriasis.

Action against psoriasis:

1. Anti-inflammatory Effects: Barberry contains berberine, which has been shown to reduce inflammation, potentially alleviating some symptoms of psoriasis [12].

2. Antioxidant Properties: The antioxidants in barberry can help combat oxidative stress, which is often elevated in individuals with psoriasis [13].

3. Topical Applications: Some topical formulations containing barberry extracts may soothe irritated skin and reduce scaling.

4. Support for Immune Function: Barberry may help regulate immune responses, which could be beneficial for autoimmune conditions like psoriasis [14].

Here are some ways it might be used:

1. Topical Treatments: Barberry extracts can be found in creams or ointments aimed at soothing irritated skin and reducing scaling. These products may help provide relief from symptoms.

2. Oral Supplements: Berberine supplements may support immune function and have anti-inflammatory effects, potentially benefiting those with psoriasis [15].

3. Herbal Teas or Infusions: Some people use barberry in herbal teas to harness its potential health benefits, including its anti-inflammatory properties.

4. Traditional Remedies: In traditional medicine, barberry has been used for various skin conditions, including psoriasis, due to its purported ability to support skin healing [16].

4.ONION (*Allium cepa*)



Allium Cepa, commonly known as onion, is a bulbous vegetable from the lily family.

Allium cepa, commonly known as onion, has been explored for various medicinal properties, including anti-inflammatory and antioxidant effects. While there is limited direct research specifically on *Allium cepa* for psoriasis treatment,

its potential benefits can be attributed to the following properties [17].

1. Anti-Inflammatory Effects: Onions contain compounds like quercetin that may help reduce inflammation, which is a key factor in psoriasis.

2. Antioxidant Properties: The antioxidants in onions can combat oxidative stress, potentially improving skin health.

3. Antimicrobial Activity: Onions have natural antimicrobial properties that may help prevent infections in psoriasis-affected skin [18].

4. Topical Applications: Some people use onion juice or onion extracts topically, believing it may soothe irritated skin.

4.GARLIC (*Allium sativum*)



Allium cepa, commonly known as onion, has several properties that may be beneficial for psoriasis management. Here's how it can act against psoriasis and its potential uses:

1. Anti-Inflammatory Properties: Onions contain compounds like quercetin, which have anti-inflammatory effects. Reducing inflammation can help alleviate symptoms of psoriasis [19].

2. Antioxidant Effects: The antioxidants in onions help combat oxidative stress, which is linked to various skin conditions, including psoriasis. This can contribute to overall skin health [20].

3. Antimicrobial Activity: Onions possess antimicrobial properties that may help prevent infections, which can be a concern for those with psoriasis lesions.

4. Skin Healing: Topical application of onion extracts or juices may promote skin healing and improve the appearance of psoriatic plaques [21].

5. Nutritional Support: Onions are rich in vitamins and minerals that support skin health. Incorporating them into the diet can provide essential nutrients.

Uses in Psoriasis

1. Topical Application: Onion juice can be applied to affected areas. It may help reduce redness and scaling.

2. Dietary Inclusion: Adding onions to meals can boost overall health and potentially improve skin conditions due to their anti-inflammatory and antioxidant properties [22].

3. Homemade Remedies: Some people use onion poultices or masks, though it's important to test for skin sensitivity first.

5. NEEM (*Azadirachta indica*)



Neem leaves are obtained from the *Azadirachta* plant and belongs to family Meliaceae.

Neem preparations are reportedly efficacious against a variety of skin diseases, septic sores, and infected burns. The leaves, applied in the form of poultices or decoctions, are also recommended for boils, ulcers, and eczema. The oil is used for skin diseases such as scrofula, indolent ulcers, and ringworm [23].

Neem leaves have been traditionally used in Ayurvedic medicine for various skin conditions, including psoriasis. Here are some ways neem leaves may help with psoriasis:

1. Anti-Inflammatory Properties: Neem leaves contain compounds that have anti-inflammatory effects. This can help reduce the redness and swelling associated with psoriasis [24].

2. Antimicrobial Effects: Neem has natural antimicrobial properties that may help prevent infections in areas of skin affected by psoriasis, which can be vulnerable to bacterial and fungal infections [25].

3. Immune System Regulation: Neem is believed to have immunomodulatory effects, helping to balance the immune response. This can be beneficial for psoriasis, which is an autoimmune condition.

4. Skin Hydration: Neem can help in maintaining skin moisture, which may alleviate some of the dryness and flakiness associated with psoriasis.

Uses for Psoriasis

1. Neem Leaf Paste: Crush fresh neem leaves to make a paste. Apply it directly to the affected areas, leave it on for 30 minutes, and then rinse off [26].

2. Neem Oil: Neem oil can be applied directly to the skin or mixed with a carrier oil. It may help moisturize and soothe inflamed skin.

3. Neem Tea: Drinking neem tea may provide internal benefits. Steep fresh or dried neem leaves in hot water, strain, and drink.

4. Baths with Neem: Adding neem leaves to bathwater can provide relief and help soothe the skin.

6. CALENDULA (*Calendula officinalis*)



Calendula (*Calendula officinalis*) is a plant known as pot marigold. It is not the same as ornamental marigolds of the *Tagetes* genus grown in vegetable gardens.

Calendula is native to Asia and southern Europe and has been traditionally used in Ayurvedic and Unani systems of medicine. The chemicals in calendula might help new tissue growth in wounds and decrease swelling in the mouth and throat [27].

Calendula flower is commonly used for wounds, rashes, infections, inflammation and many other conditions. But there's no strong evidence to support the use of calendula for any purpose.

How To Use Calendula on Skin?

1. As a balm or ointment to soothe irritated skin.
2. As an infusion for facial toner.
3. As an ingredient of soaps or scrubs.
4. As a sunscreen.

7. BLACK CUMIN (*Nigella sativa*)



Black cumin seeds, also known as *Nigella sativa*, have been traditionally used in various cultures for their potential health benefits, including for skin conditions like psoriasis. Some studies suggest that the anti-inflammatory and antioxidant properties of black cumin oil may help alleviate symptoms associated with psoriasis, such as redness and itching [28].

Black cumin has a spectrum of effects ranging from pain relief and cancer prevention to inflammation reduction and infection prevention. It's considered to be a promising treatment for a variety of skin conditions, including psoriasis.

8.PAPAYA (*Carica papaya*)



Papaya leaves and seeds are often touted for their potential health benefits, including their use in managing psoriasis. Here's how they are commonly used:

Papaya Leaves

1. Juice: The leaves can be juiced and consumed. Some people believe that the nutrients and compounds in the juice may help reduce inflammation and promote skin health [29].

2. Topical Application: Crushed or blended papaya leaves can be applied directly to the skin. This topical application is thought to soothe irritation and provide relief.

Papaya Seeds

1. Consumption: The seeds can be eaten in small amounts. They contain enzymes and antioxidants that may help support overall health and possibly improve skin conditions.

2. Ground into Powder: Some people grind the seeds into a powder and mix them with other ingredients to create a paste for topical application [30].

IV. NEW INNOVATION IN PSORIASIS

New topical treatments

Topical treatments are ones you rub onto your skin. They are often the first treatments doctors recommend for psoriasis. Topical treatments work by reducing inflammation and slowing excess skin cell production [31].

New topical treatments for psoriasis include:

Roflumilast (Zoryve)

The FDA approved Zoryve in July 2022 for the treatment of plaque psoriasis [32].

It's a steroid-free cream that can help treat mild, moderate, and severe psoriasis. It can be applied anywhere on the skin, including skin folds.

The cream is applied once daily.

Side effects of Zoryve include:

- Diarrhea
- Pain at the application site [33]
- Headache
- Upper respiratory tract infections
- Trouble sleeping

Tapinarof (Vtama)

Vtama was approved by the FDA in May 2022 for the treatment of mild, moderate, and severe plaque psoriasis.

It works by slowing your body's ability to produce new skin cells and reducing inflammation. Just like Zoryve, it is applied once daily [34].

During phase 3 clinical trials, the drug had shown high rates, Trusted Source of complete disease clearance and was well tolerated by participants.

Side effects of Vtama include:

- Flu symptoms
- Headache
- Itchiness
- Nasal inflammation
- Skin rash, burning or stinging where the cream has been applied.

Wynzora

The FDA approved Wynzora in July 2020 for the topical treatment of psoriasis.

The cream works to reduce itching and restore skin barrier function. Wynzora is used once daily.

Side effects of Wynzora include [35]

- Skin thinning
- Headache
- Blurred vision

V. INVOLVEMENT OF AI IN PSORIASIS

AI is increasingly playing a significant role in various aspects of psoriasis management, from diagnosis to treatment and patient support. Here are some key areas where AI is making an impact:

1. Diagnosis: AI algorithms can analyze images of skin lesions to assist dermatologists in diagnosing psoriasis. These tools can improve accuracy and speed in identifying the conditions compared to traditional methods [36].

2. Treatment Personalization: AI can help in predicting how patients will respond to specific treatments by analyzing patient data, including genetic information, past responses to therapies and other health factors. This allows more personalized treatment plans.

3. Monitoring Disease Progression: AI-powered apps and platforms can track symptoms and flare-ups through patient-reported data and images, providing valuable insights to both patients and healthcare providers about disease progression [37].

4. Research and Drug Development: AI is being used to analyze large datasets in psoriasis research, identifying potential new therapeutic targets and accelerating the drug discovery process.

5. Patient Support: AI chatbots and virtual assistants can provide patients with information about psoriasis, help manage treatment regimens, and offer emotional support, improving overall patient engagement and adherence to treatment [38].

6. Predictive Analytics: Machine learning models can predict psoriasis flare-ups based on various factors, including environmental triggers and lifestyle choices, enabling proactive management of the condition.

Advantages of herbal medicines in treatment of Psoriasis

1. Anti-inflammatory Properties: Many herbs, such as turmeric and ginger, contain compounds that help to reduce inflammation, which can alleviate psoriasis symptoms.

2. Skin Healing: Herbs like aloe vera and calendula promote skin healing and hydration, helps to soothe psoriatic lesions [39].

3. Natural Ingredients: Herbal treatments are often less harsh than synthetic medications, reducing the risk of side effects.

4. Immune System Support: Certain herbs, such as ashwagandha, may help modulate the immune response, which is beneficial since psoriasis is an autoimmune condition.

5. Antioxidant Effects: Many herbs, like green tea and milk thistle, are rich in antioxidants that can protect skin cells from damage and promote overall skin health [40].

6. Stress Reduction: Herbs such as chamomile and lavender can help reduce stress, which is a known trigger for psoriasis flare-ups.

7. Customizable Treatments: Herbal remedies can be tailored to individual needs, allowing for a more personalized approach to managing psoriasis.

8. Potential for Long-term Management: Incorporating herbal remedies into a holistic treatment plan may help with long-term management and prevention of flare-ups.

9. Accessibility: Many herbal remedies are readily available and can be more affordable compared to prescription medications.

10. Cultural Acceptance: For some, herbal medicine aligns better with cultural practices and beliefs, enhancing adherence to treatment.

VI. CONCLUSION

The present work deals with an up-to-date review on the ethnomedical information, Symptoms, drugs and their uses and pharmacological information of Plants used to treat Psoriasis. It is also beneficial for the research and development related to the novel drugs used to treat psoriasis. The current review also explains about the advantages of herbal medicines in treatment of Psoriasis. The review is helpful in doing further research on psoriasis. Hence, the objective of this review is to progress the present-day researchers in the direction to undertake further studies of this plant.

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