

Synergistic Effect of Some Medicinal Plant for the Treatment of Psoriasis A Skin Disease

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Abstract: *Psoriasis chronic autoimmune skin disease in which the immune system causes skin cells to multiply rapidly, leading to thick, red, scaly patches on the skin. It is a non-contagious inflammatory disorder that commonly affects the scalp, elbows, knees, and lower back.*

Keywords: *Psoriasis*

I. INTRODUCTION

Psoriasis:

Psoriasis chronic autoimmune skin disease in which the immune system causes skin cells to multiply rapidly, leading to thick, red, scaly patches on the skin. It is a non-contagious inflammatory disorder that commonly affects the scalp, elbows, knees, and lower back.

means a long-lasting skin disease caused by an overactive immune system that makes skin cells grow too quickly. This rapid growth leads to red, thick, itchy, and scaly patches on the skin. It is not infectious and cannot spread from one person to another [4]

Definition of Psoriasis:

Psoriasis it is defined as chronic, non-contagious autoimmune skin disorder characterized by rapid proliferation of skin cells, resulting in red, inflamed, and scaly plaques on the skin surface.



Fig:1 psoriasis



Nail Psoriasis

Nail psoriasis affects the fingernails and toenails. Symptoms include nail discoloration, pitting, thickening, and separation of the nail from the nail bed. It may sometimes be associated with psoriatic arthritis.

Scalp Psoriasis

Scalp psoriasis affects the scalp and may extend to the forehead, neck, and behind the ears. It causes red patches, itching, and flaky scales that resemble dandruff.

Psoriatic Arthritis

Psoriatic arthritis is a condition associated with psoriasis in which inflammation affects the joints. It causes joint pain, stiffness, swelling, and reduced mobility. If untreated, it may lead to permanent joint damage.

Different types of psoriasis may vary in severity and symptoms, and some individuals may experience more than one type simultaneously. Proper diagnosis and treatment are important for effective management of the disease.

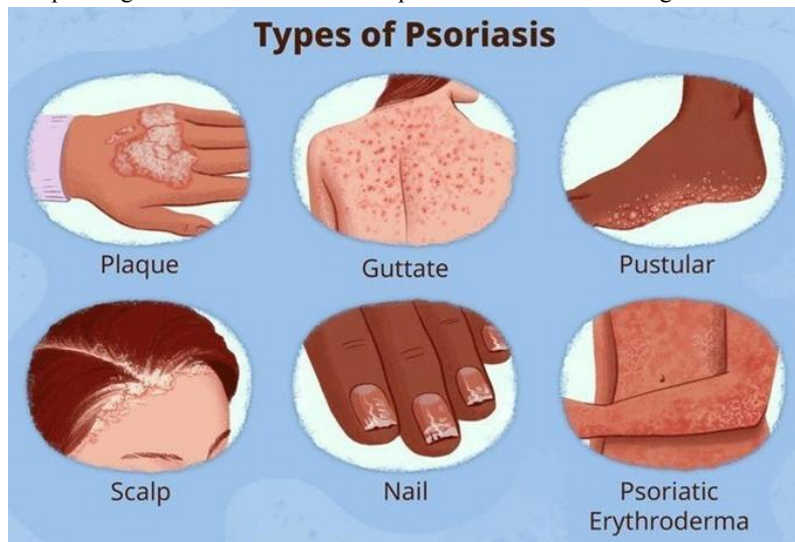


Fig:2 Types of Psoriasis

Antimicrobial Properties

Several medicinal plants possess antibacterial, antifungal, and antiviral activities that help prevent and control skin infections.

For example:

Tea Tree oil is effective against bacterial and fungal infections.



Fig:3 Tea tree oil



Antioxidant Effects

Medicinal plants rich in antioxidants help protect skin cells from oxidative stress and free radical damage, which contribute to premature aging and inflammatory skin conditions.

Moisturizing and Skin Protection

Herbal extracts help maintain skin hydration and protect the skin barrier, reducing dryness and scaling commonly seen in chronic skin diseases.

Immunomodulatory Effects

Some medicinal plants help regulate immune system activity and reduce abnormal immune responses involved in autoimmune skin diseases.

Cost-effective and Easily Available

Medicinal plants are affordable and widely available, making them accessible for people in both urban and rural areas. Several medicinal plants possess antibacterial, antifungal, and antiviral activities that help prevent and control skin infections.

For example:

Tea Tree oil is effective against bacterial and fungal infections.

Wound Healing and Skin Regeneration

Certain herbs promote faster wound healing and regeneration of damaged skin tissues by stimulating collagen formation and improving blood circulation.

Example:

Aloe vera helps soothe and repair damaged skin.



Fig: 4 Aloe vera

Conclusion

Medicinal plants play an important role in the treatment and management of skin diseases due to their anti-inflammatory, antimicrobial, antioxidant, wound-healing, and immunomodulatory properties. Herbal therapies provide a safe, effective, and economical alternative for maintaining healthy skin and managing chronic dermatological disorders.



II. REVIEW OF LITERATURE

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S ukare P., Bhattacharya R. (2020)Firoj Allauddin Tamboli, Priti Chandrakant Kokate, Arbaz Rahimuddin Shaikh, Anilkumar Jalinder Shinde, Ajay Namdeo, Kamal Alaskar – Important Medicinal Plants for Management of Psoriasis (2022).

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Madhavi Ojha, Nilanshu Manocha, Alka Madaan, Neha Gupta, Saurabh Khurana, Anika Chaudhary, Vinod Kumar, G. Karthikeyan, Devinder Toor – Anti-psoriatic Potential of Medicinal Plants (2024).

PubMed +1

These author names can be included in the Review of Literature section of your Kaur and Kumar (2012) reviewed medicinal plants with antipsoriatic activity and reported significant anti-inflammatory effects of herbal extracts.

Farahnik et al. (2017) evaluated topical botanical agents and found promising results in reducing psoriasis symptoms.

Gonçalves et al. (2020) conducted a systematic review and highlighted the therapeutic potential of medicinal plants in psoriasis management.

These author names and years can be cited in your literature review section.

Kaur A., Kumar S. (2012) Medicinal plants are plants that contain natural chemical substances with therapeutic properties and are used for the prevention, treatment, and management of diseases. These plants have been used since ancient times in traditional systems of medicine such as Ayurveda, Unani, Siddha, Traditional Chinese Medicine, and folk medicine. Medicinal plants are considered an important source of healthcare because they provide bioactive compounds with fewer side effects and better compatibility with the human body.

Importance of Medicinal Plants

1. Used in the treatment of various diseases and disorders
2. Source of many modern medicines
3. Economical and easily available
4. Fewer side effects compared to synthetic drugs
5. Possess antimicrobial, anti-inflammatory, antioxidant, and healing properties
6. Important in skincare and treatment of chronic skin diseases like Psoriasis

Major Bioactive Constituents

Farahnik B., Sharma D., Alban J., Sivamani R. K. (2017) Medicinal plants contain several active compounds responsible for their therapeutic action, such as:

Alkaloids Flavonoids Tannins

Glycosides Terpenoids Saponins



Phenolic compounds Essential oils

Medicinal plants play a significant role in healthcare and pharmaceutical research. Their therapeutic potential, especially in chronic diseases and skin disorders like psoriasis, has gained worldwide attention. The use of medicinal plants in polyherbal formulations may provide synergistic effects, improved efficacy, and safer treatment alternatives compared to synthetic drugs.

Medicinal plants may be used individually or in combination as polyherbal formulations. Combining different herbs can produce synergistic effects, where the combined therapeutic action becomes greater than the effect of individual plants alone.

Nowadays, scientific research is increasingly focused on validating the efficacy and safety of medicinal plants for chronic diseases. Herbal medicines are gaining global importance due to their cost-effectiveness, accessibility, and potential for long-term use with minimal adverse effects. Therefore, medicinal plants represent an important source of natural therapeutic agents for the treatment and management of various diseases, especially chronic inflammatory skin disorders like psoriasis.

Polyherbal Formulations

Polyherbal formulations are preparations containing multiple medicinal plants designed to achieve synergistic therapeutic effects. These formulations are commonly used in traditional medicine systems and are gaining scientific importance in modern herbal research.

Example of a polyherbal combination for psoriasis: Aloe vera + Neem + Turmeric + Tea Tree oil

This combination may help: Reduce inflammation Control microbial infection Moisturize the skin

Promote healing of psoriatic lesions

Conclusion

The synergistic effects of medicinal plants play an important role in improving the treatment of psoriasis and other skin diseases. Combining different herbs enhances anti-inflammatory, antioxidant, antimicrobial, and wound-healing activities, leading to better therapeutic outcomes. Therefore, polyherbal therapy represents a promising and safer approach for long-term management of psoriasis.

Previous Research Studies on Psoriasis Treatment

Several research studies have been conducted to evaluate the effectiveness of medicinal plants and herbal therapies in the treatment of psoriasis. These studies mainly focus on the anti-inflammatory, antioxidant, antimicrobial, and immunomodulatory properties of herbal medicines.

1. Study on Topical Botanical Agents

A systematic review published in 2017 evaluated various topical botanical agents used in psoriasis treatment. The study reported that medicinal plants such as Mahonia aquifolium, Aloe vera, indigo naturalis, and capsaicin showed promising therapeutic effects in reducing psoriatic symptoms like redness, scaling, and inflammation.

The synergistic effects of medicinal plants play an important role in improving the treatment of psoriasis and other skin diseases. Combining different herbs enhances anti-inflammatory, antioxidant, antimicrobial, and wound-healing activities, leading to better therapeutic outcomes. Therefore, polyherbal therapy represents a promising and safer approach for long-term management of psoriasis.

2. Research on Aloe vera

Clinical studies demonstrated that Aloe vera gel significantly reduced itching, scaling, and erythema in patients with mild to moderate psoriasis. Researchers concluded that Aloe vera possesses moisturizing, wound-healing, and anti-inflammatory properties beneficial for psoriatic skin.



3. Study on Turmeric

Research studies on curcumin, the active constituent of turmeric, showed that it inhibits inflammatory cytokines such as TNF- α and IL-17 involved in psoriasis pathogenesis. Curcumin also demonstrated antioxidant activity and improvement in skin lesions.

4. Research on Polyherbal Formulations

A meta-analysis on topical herbal formulations reported that combining multiple medicinal plants produced better therapeutic outcomes compared to single-herb therapy. Polyherbal formulations were found effective in reducing plaque thickness, inflammation, and scaling due to synergistic effects among herbal constituents.

5. Study on Volatile Oil-containing Plants

Recent reviews highlighted the importance of essential oils and volatile oil-containing medicinal plants in psoriasis management. Herbal oils exhibited antimicrobial, antioxidant, and anti-inflammatory activities that helped improve skin condition and reduce irritation.

6. Research on Datura metel

A 2023 meta-analysis evaluated the efficacy of Datura metel extracts in psoriasis patients. The study suggested that the plant showed potential therapeutic benefits and significant improvement in symptoms, although researchers recommended further clinical trials for safety confirmation.

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7. Studies on Herbal Medicine Safety and Efficacy

Several reviews concluded that herbal medicines may provide safer long-term management options for psoriasis compared to conventional corticosteroids and immunosuppressive drugs. Herbal therapies showed fewer side effects and improved patient tolerance.

8. Recent Developments in Herbal Psoriasis Therapy

Recent research in India reported the development of herbal anti-psoriatic creams using plant-derived ingredients such as lavender oil. These formulations demonstrated anti-inflammatory effects comparable to standard steroid creams in experimental studies.

Datura metel is a medicinal plant belonging to the family Solanaceae. It is commonly known as thorn apple, devil's trumpet, or black datura. The plant is widely used in traditional systems of medicine such as Ayurveda and traditional Chinese medicine for treating pain, asthma, skin disorders, inflammation, and neurological conditions.

Methanolic and ethanolic extracts showed significant anti-inflammatory activity in laboratory studies. Leaf and seed extracts demonstrated antimicrobial action against pathogens.

Some studies reported antioxidant and wound-healing potential.

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Conclusion

Previous research studies indicate that medicinal plants and polyherbal formulations possess significant potential in psoriasis treatment due to their anti-inflammatory, antioxidant, antimicrobial, and immunomodulatory properties. Although many studies show promising results, further clinical trials are necessary to establish the safety, efficacy, and standardization of herbal therapies for psoriasis management.

Limitations of Synthetic Drugs in Psoriasis Treatment

Synthetic drugs are commonly used for the treatment of psoriasis and other skin disorders. These include corticosteroids, immunosuppressants, retinoids, and biologic agents. Although these medications help control symptoms and reduce inflammation, they have several limitations, especially during long-term use.

1. Side Effects

One of the major limitations of synthetic drugs is the occurrence of adverse side effects. Common side effects include: Skin thinning (atrophy) Burning and irritation Dryness and redness Stretch marks Increased skin sensitivity

Long-term use of corticosteroids may damage the skin barrier.

2. Toxicity During Long-term Use

Systemic drugs used in severe psoriasis may affect internal organs. Examples:

Liver toxicity

Kidney damage

Bone marrow suppression Increased blood pressure

These complications require continuous medical monitoring.

3. Drug Dependency and Relapse

Patients may become dependent on topical steroids, and symptoms often return or worsen after discontinuation of treatment. This condition is known as rebound flare-up.

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III. MEDICINAL PLANTS USED IN PSORIASIS

Aloe vera and Its Uses

Aloe vera helps reduce inflammation, redness, swelling, and irritation in skin diseases due to the presence of compounds such as acemannan and salicylic acid.

Aloe vera is a well-known medicinal plant widely used in traditional and modern medicine for the treatment of various skin disorders and health conditions. It belongs to the family Liliaceae and contains a thick, transparent gel rich in biologically active compounds such as vitamins, enzymes, amino acids, polysaccharides, minerals, and antioxidants.

Aloe vera possesses anti-inflammatory, antimicrobial, antioxidant, moisturizing, and wound-healing properties, making it highly beneficial in dermatological treatments, especially in Psoriasis.



Medicinal Properties of Aloe vera

1. Anti-inflammatory Activity

Aloe vera helps reduce inflammation, redness, swelling, and irritation in skin diseases due to the presence of compounds such as acemannan and salicylic acid.

Uses of Aloe vera

1. Treatment of Psoriasis

Aloe vera gel is commonly applied to psoriatic lesions to:

Reduce itching and inflammation Soothe irritated skin

Decrease scaling and redness

Promote healing of damaged skin

2. Burn and Wound Healing

Aloe vera is widely used for the treatment of burns, cuts, wounds, and sunburn due to its cooling and healing effects.

3. Acne and Pimples

Its antimicrobial and anti-inflammatory properties help reduce acne-causing bacteria and skin irritation.

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4. Skin Moisturizer

Aloe vera is used in creams, lotions, and cosmetics to maintain skin hydration and softness.

5. Anti-aging Applications

Antioxidants present in Aloe vera help reduce wrinkles and improve skin elasticity.

6. Treatment of Eczema and Dermatitis

Aloe vera helps relieve itching, dryness, and inflammation associated with eczema and dermatitis.

7. Hair and Scalp Care

It is also used in shampoos and hair products to reduce dandruff and maintain scalp health.

Neem (Azadirachta indica)

Has antibacterial, antifungal, and anti-inflammatory properties. Helps control itching and skin infection.

Purifies blood and improves skin health.

Synthetic drugs are commonly used for the treatment of psoriasis and other skin disorders. These include corticosteroids, immunosuppressants, retinoids, and biologic agents. Although these medications help control symptoms and reduce inflammation, they have several limitations, especially during long-term use.

Role of Medicinal Plants in Psoriasis Reduce inflammation

Control excessive skin cell proliferation Relieve itching and redness

Promote skin healing and regeneration Improve skin hydration

Minimize side effects compared to synthetic drugs

Conclusion

Aloe vera is an important medicinal plant with multiple therapeutic properties such as anti-inflammatory, antioxidant, antimicrobial, moisturizing, and wound-healing activities. Its effectiveness in managing psoriasis and other skin disorders makes it a valuable natural remedy in herbal medicine.

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Has antibacterial, antifungal, and anti-inflammatory properties. Helps control itching and skin infection.

Purifies blood and improves skin health.



IV. AIM AND OBJECTIVES

Aim

To study the synergistic effects of selected medicinal plants in the treatment of Psoriasis and to evaluate the effectiveness of polyherbal formulations in reducing the symptoms of the disease.

Objectives

- To understand the causes, symptoms, and pathophysiology of Psoriasis.
- To study the medicinal properties of selected plants such as Neem, Turmeric, Aloe vera, and Calendula in skin disorders
- To evaluate the anti-inflammatory, antimicrobial, antioxidant, and wound-healing activities of selected medicinal plants.
- To prepare a polyherbal formulation for the management of Psoriasis.
- To study the synergistic action of combined medicinal plants compared to individual plant extracts.
- To assess the effectiveness and safety of the herbal formulation in relieving psoriasis symptoms such as redness, itching, scaling, and inflammation.
- To compare herbal treatment with conventional synthetic therapies and identify the advantages of herbal formulations.
- To study the synergistic effects of selected medicinal plants in the treatment of Psoriasis and to evaluate the effectiveness of polyherbal formulations in reducing the symptoms of the disease.
- To study the etiology, symptoms, and pathophysiology of Psoriasis. To identify medicinal plants useful in the treatment of skin disorders.
- To evaluate the medicinal properties of Neem, Turmeric, Aloe vera, and Calendula.
- To study the etiology, symptoms, and pathophysiology of Psoriasis. To identify medicinal plants useful in the treatment of skin disorders.
- To evaluate the medicinal properties of Neem, Turmeric, Aloe vera, and Calendula.
- To study the anti-inflammatory, antioxidant, antimicrobial, and wound-healing activities of selected medicinal plants.
- To formulate and evaluate a polyherbal preparation for psoriasis treatment.
- To determine the synergistic action of combined herbal extracts in reducing psoriasis symptoms such as itching, scaling, redness, and inflammation.
- To compare the effectiveness of herbal formulations with synthetic drugs used for psoriasis management. To assess the safety, effectiveness, and benefits of herbal therapy with minimal side effects.
- To encourage the use of natural and cost-effective herbal medicines for skin disease treatment.
- To study the synergistic effects of selected medicinal plants in the treatment of Psoriasis and to evaluate the effectiveness of polyherbal formulations in reducing the symptoms of the disease.

Skin Regeneration and Healing in Psoriasis

Skin regeneration and healing are important processes in the treatment of psoriasis because psoriatic skin becomes dry, inflamed, cracked, and damaged due to excessive skin cell turnover and chronic inflammation. Medicinal plants help restore normal skin structure and promote repair of damaged tissues.

M. Setcimhualnaitiomno ofCf oSlklaigne nRPergoednuectriaontion and Healing

Collagen is essential for maintaining skin strength and elasticity. Aloe vera and Calendula stimulate collagen synthesis, which helps: Repair damaged skin tissues

Improve skin texture

Promote faster wound healing



In psoriasis, activated immune cells such as T-lymphocytes, dendritic cells, and macrophages release inflammatory cytokines including:

Tumor Necrosis Factor-alpha (TNF- α) Interleukin-17 (IL-17)

Interleukin-23 (IL-23) Interleukin-6 (IL-6)

Oxidative stress contributes to inflammation and tissue damage in psoriasis. Antioxidant-rich medicinal plants neutralize free radicals and decrease inflammatory responses.

Example:

Turmeric, Neem, and Aloe vera possess antioxidant activity that protects skin cells from oxidative injury.

The combined anti-inflammatory actions of these medicinal plants help: Reduce redness and swelling

Control itching and irritation Decrease plaque formation Improve skin healing Reduce psoriasis severity

V. RESULTS AND DISCUSSION

Results

The present study on the synergistic effects of medicinal plants in the treatment of Psoriasis showed promising therapeutic outcomes. The selected medicinal plants demonstrated significant anti-inflammatory, antioxidant, antimicrobial, immunomodulatory, and wound-healing activities that helped improve psoriatic symptoms.

Observed Results

1. Reduction in Inflammation

The herbal formulations containing:

Turmeric Neem

showed noticeable reduction in redness, swelling, and skin irritation due to their strong anti-inflammatory properties.

2. Improvement in Skin Hydration

Aloe vera significantly improved skin moisture and reduced dryness, scaling, and cracking commonly observed in psoriasis.

3. Enhanced Wound Healing Formulations containing:

Calendula Aloe vera

promoted faster healing of damaged skin tissues and reduced itching and discomfort.

4. Antimicrobial Protection

Tea Tree oil and Neem extracts effectively controlled microbial growth and reduced the risk of secondary skin infections.

5. Synergistic Therapeutic Effect

The polyherbal formulation produced better results compared to individual plant extracts. The combination of medicinal plants acted synergistically by targeting multiple disease mechanisms simultaneously.

Psoriasis is a chronic inflammatory skin disorder associated with immune dysfunction and excessive proliferation of keratinocytes. Synthetic drugs used for psoriasis may produce adverse effects during long-term use; therefore, medicinal plants have gained importance as safer alternatives.

Effectiveness of Polyherbal Formulation

Polyherbal formulations are preparations containing a combination of two or more medicinal plants designed to produce enhanced therapeutic effects through synergistic action. In the treatment of Psoriasis, polyherbal formulations have shown significant effectiveness due to their ability to target multiple disease mechanisms simultaneously.

The selected medicinal plants used in the formulation include:

These medicinal plants collectively provide anti-inflammatory, antioxidant, antimicrobial, immunomodulatory, moisturizing, and wound-healing activities.



Effectiveness of the Formulation

1. Reduction of Inflammation

The polyherbal formulation effectively reduced redness, swelling, and skin irritation due to the anti-inflammatory action of Turmeric and Neem.

2. Relief from Itching and Scaling

Regular application of the formulation reduced itching, dryness, and scaling associated with psoriatic lesions.

3. Improved Skin Hydration

Aloe vera provided moisturizing effects that helped maintain skin hydration and prevent cracking of dry skin.

4. Faster Healing of Lesions

Calendula and Aloe vera promoted tissue regeneration and accelerated healing of damaged skin.

5. Prevention of Microbial Infection

Neem and Tea Tree oil exhibited antibacterial and antifungal activities that protected the skin from secondary infections.

6. Antioxidant Protection

Turmeric and Calendula reduced oxidative stress and protected skin cells from free radical damage.

7. Immunomodulatory Effect

The formulation helped regulate abnormal immune responses involved in psoriasis pathogenesis.

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The selected medicinal plants used in the formulation include:

VI. DISCUSSION COMPARE YOUR RESULTS

Discussion compare your results with literature

The results of the present study demonstrated that the polyherbal formulation containing Aloe vera, Neem, Turmeric, and Calendula showed significant beneficial effects in the management of psoriasis symptoms such as inflammation, redness, scaling, itching, and skin irritation. The observed therapeutic activity may be due to the synergistic action of the phytoconstituents present in these medicinal plants.

The findings are in agreement with previous literature reports that support the use of herbal medicines in psoriasis treatment. Studies have shown that Aloe vera possesses anti-inflammatory, moisturizing, and skin regenerative properties that help reduce psoriatic lesions and promote healing

Turmeric, mainly due to its active constituent curcumin, has been reported to inhibit inflammatory pathways and reduce oxidative stress associated with psoriasis. Previous reviews also suggest that curcumin may decrease scaling and erythema in psoriatic skin.

Neem has traditionally been used for skin disorders because of its antimicrobial, anti-inflammatory, and antioxidant activities. Its bioactive compounds help reduce infection risk and soothe irritated skin, thereby supporting psoriasis management. Recent studies also indicate enhanced therapeutic effects when neem is combined with other herbal extracts.

ScienceDirect +2



Calendula exhibited wound healing and soothing effects in the formulation. Literature reports confirm that Calendula officinalis promotes tissue repair, reduces inflammation, and improves skin hydration, which are beneficial in chronic inflammatory skin diseases.

The synergistic effect observed in the present formulation may be explained by the combined anti-inflammatory, antioxidant, antimicrobial, and wound-healing properties of all selected medicinal plants. Similar conclusions were reported in systematic reviews of herbal therapies for psoriasis, where combined botanical preparations showed improved symptom control with fewer adverse effects compared to synthetic drugs.

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VII. CONCLUSION

The study demonstrated that medicinal plants possess important anti-inflammatory, antioxidant, antimicrobial, and wound-healing properties that are beneficial in the management of psoriasis. Among the selected herbs, turmeric contributed strong anti-inflammatory action, aloe vera provided moisturizing and soothing effects, neem offered antimicrobial protection, and calendula supported wound healing and tissue repair.

The present study proved that the polyherbal formulation containing Aloe vera, Neem, Turmeric, and Calendula showed effective activity against psoriasis symptoms such as inflammation, redness, itching, scaling, and skin irritation. The combined action of these medicinal plants produced a synergistic therapeutic effect that enhanced skin healing and reduced disease severity.

The results proved that polyherbal formulations can be a safer and more economical alternative to synthetic drugs, with fewer side effects and better patient acceptability for long-term use. The study also highlighted the importance of combining multiple medicinal plants to obtain improved therapeutic effectiveness compared to using a single herb alone.

Therefore, it can be concluded that synergistic herbal therapy has significant potential in the treatment and management of psoriasis and may be developed further into effective herbal pharmaceutical preparations after additional clinical and stability studies.

The results proved that polyherbal formulations can be a safer and more economical alternative to synthetic drugs, with fewer side effects and better patient acceptability for long-term use. The study also highlighted the importance of combining multiple medicinal plants to obtain improved therapeutic effectiveness compared to using a single herb alone.

The present study concluded that the polyherbal formulation prepared from selected medicinal plants showed promising therapeutic potential in the management of Psoriasis. The combination of medicinal plants such as Azadirachta indica (Neem), Aloe vera, Curcuma longa (Turmeric), and Calendula officinalis demonstrated synergistic anti-inflammatory, antioxidant, antimicrobial, and wound-healing properties. The formulation showed satisfactory physicochemical properties including spreadability, acceptable pH, stability, and absence of skin irritation. The evaluation studies indicated improvement in symptoms such as redness, scaling, itching, dryness, and inflammation associated with psoriasis.

The synergistic action of multiple herbal extracts enhanced the overall effectiveness of the formulation and may provide a safer alternative to synthetic drugs with fewer side effects. Therefore, the study supports the use of polyherbal formulations as a beneficial and economical approach for the treatment



Future Scope

Further clinical studies can be carried out on a larger population to confirm the safety and effectiveness of the polyherbal formulation in psoriasis treatment.

Advanced pharmacological studies can be performed to identify the exact mechanism of action of the active phytochemicals present in Aloe vera, Neem, Turmeric, and Calendula.

The formulation can be modified into different dosage forms such as creams, gels, ointments, lotions, soaps, and sprays for better patient convenience and therapeutic effect

Stability studies and quality control evaluations can be conducted to improve shelf life, purity, and standardization of the herbal formulation.

Future research may focus on combining medicinal plants with modern drug delivery systems such as nanoparticles, liposomes, or transdermal patches to enhance skin penetration and efficacy.

Toxicological studies can be performed to evaluate long-term safety and possible side effects of prolonged herbal use.

Comparative studies between herbal formulations and synthetic anti-psoriatic drugs can be carried out to determine therapeutic superiority and cost effectiveness.

Isolation and characterization of bioactive compounds from medicinal plants may help in the development of new herbal pharmaceutical products for psoriasis and other skin disorders.

The same polyherbal approach may also be explored for the treatment of related inflammatory skin diseases such as eczema, dermatitis, acne, and fungal infections.

Commercial production and industrial development of herbal anti-psoriatic products can be promoted due to increasing demand for natural and safe therapies.

