



REVIEW STUDY OVER ROLE OF VARIOUS SYNTHETIC AND NATURAL MEDICAMENTS USED IN THE TREATMENT OF SKIN ITCHING

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ABSTRACT

The increasing prevalence of skin diseases has led to a growing interest in both allopathic and herbal treatments. Skin conditions similar as eczema, psoriasis, and acne not only affect physical appearance but also significantly impact quality of life. Traditional allopathic medicines have been the dependence of treatment; still, their side effects and the rising costs have urged numerous to explore herbal alternatives. Herbal drugs, deduced from various plants, have been employed for centuries in different societies for their remedial properties. Recent studies punctuate the effectiveness of several herbs, in treating skin diseases like psoriasis, demonstrating their eventuality as feasible druthers.

The conventional herbs like Aloe Vera, neem, chamomile, tulsi, turmeric, sandalwood, and echinacea show pledge in managing conditions ranging from inflammation to acne. The request for herbal phrasings is expanding fleetly, driven by consumer demand for natural remedies that frequently present smaller side goods than synthetic medicines. In developing regions, where access to allopathic treatments may be limited, herbal products serve as a primary healthcare resource for a significant portion of the population. Despite the benefits of herbal treatments, there are challenges, including the need for rigorous scientific confirmation and standardization of herbal products to insure safety and efficacy. The integration of

ultramodern technology, similar as nanotechnology, into herbal drug could enhance the delivery and effectiveness of these treatments.

In conclusion, while allopathic medicines remain pivotal in dermatological care, the resurgence of interest in herbal remedies offers a reciprocal approach that could address both efficacy and safety enterprises in treating skin diseases. Farther exploration is essential to completely understand their implicit and to develop standardized phrasings that can be safely employed in clinical practice.

INTRODUCTION

The skin is well known as the substantial organ of the human body, book-keeping for around 16% of body weight. It serves as a defensive boundary against environmental hazards and contamination, controls temperature and prevents water loss from the body. ^[1] The skin's complex structure comprises of epidermis, dermis and subcutaneous tissue, ensures its multifaceted part in sustaining health, overall wellbeing and homeostasis. In spite of its robust design, the skin is vulnerable to various disorders, among which itching or pruritus is one of the most common and troubling. Skin along with hair, sweat glands, oil glands, nails is part of the integumentary system (meaning body's outer covering). The various functions of skin are; protection, acts as a barrier for pathogens, has variety of nerve endings for sensation, thermoregulation, and acts as storage for water and lipids, absorption through skin and water resistance. Skin pigmentation and skin type varies among population from dry to oily. Skin comprises mainly of three layers, epidermis, dermis and the hypodermis. The epidermis is the peripheral superficial shallow layer of the skin, it helps skin regulate its temperature, contains no blood vessels, acts as a barrier to infection, and cells present are keratinocytes, melanocytes, langerhans cells and merkel's cells. Epidermis is partitioned into 5 sub layers; stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, stratum basale. The dermis lies underneath the epidermis that consists of epithelial tissue; it contains the hair follicles, sweat glands, lymphatic vessels and blood vessels. Dermis contains two layers they are papillary layer and reticular layer. The blood vessels displayed in dermis layer provide nourishment and removal of waste from its own cells as well for the epidermis. The hypodermis also known as subcutaneous tissue consists of connective tissue with collagen and elastin, fundamental cells are fibroblasts and macrophages and it contains 50% of body fat. ^[2]

Itchy skin, medically referred to as pruritus, is a common symptom that can arise from a multitude of causes, ranging from benign conditions like dry skin to more serious underlying diseases such as liver dysfunction or systemic disorders. Pruritus can significantly impact an individual's quality of life, leading to discomfort, sleep disturbances, and even psychological distress due to persistent scratching and irritation.^[3] Understanding the underlying mechanisms of itching and available treatment options is crucial for effective management. Acute pruritus serves as a protective mechanism to alert the body to harmful stimuli, chronic pruritus-lasting over six weeks-can lead to substantial physical and psychological distress. Chronic scratching in response to itching often results in a vicious cycle known as the “itch-scratch cycle.” Persistent scratching damages the skin barrier, increasing susceptibility to infections and inflammation.^[4] Pruritus causes are manifold and can be classified as dermatological problems, systemic diseases and environmental factors. Some dermatological problems are eczema, psoriasis, scabies and fungal infection. Some systemic diseases are liver disease, thyroid disorders and chronic kidney disease. Some environmental factors are dry skin, allergic reactions and insect bites.^[5] The various skin diseases are as follows:-

1. Atopic dermatitis – It is known also by the name atopic eczema and is chronic provocative skin condition characterized by pruritic and textured skin lesions localized to the surface of the body. It weakens skin's barrier function which helps your skin retain moisture. The onset of this disease is below 2 years of age and only 10 percent of cases analyzed, diagnosed after 5 years of age.^[6]
2. Psoriasis – It is a chronic non-infectious skin inflammation due to keratin synthesis which causes pruritus along with silvery, white scales on knees, scalp, elbows and legs. Psoriasis is genetically influenced and inflammatory skin disorder that affects 1 – 3 percent of the world's population. It is a disabling, though life threatening disease with social and economic impact.^[7]
3. Urticaria – People in few point of their life that is 20% of the world's population gets affected by urticaria. It is due to enactment and degranulation of skin mast cells and the release of histamine. There are two types' acute urticaria which endures for less than 6 weeks and chronic urticaria which endures for more than 6 weeks.^[8]
4. Scabies – The mite, *Sarcoptes scabiei* is the cause of the disease scabies that is transmitted from person to another by direct skin contact, clothing and bed linen. It is an infectious parasitic skin disorder that affects people at all financial levels. Scabies is related with poverty, stuffing, and overcrowding, indigenous communities, malnutrition and low access to healthcare.^[9]

5. Shingles – It is also known as Herpes zoster an inflammatory skin disease that is marked as small clustered vesicles caused by the varicella zoster virus.^[10]

6. Ringworm – It is a fungal infection that affects the keratinized layer of skin, characterized by scaling, itching and painful lesion on any part of the body.^[11]

The management of pruritus involves addressing both the symptoms and its underlying cause; treatment can be broadly categorized into synthetic and natural remedies. Synthetic treatment or drugs are those pharmaceuticals that are made from synthetic compounds and are used to treat diseases whereas Natural remedies are product or treatment that uses natural sources to cure.

This review explores the therapeutic landscape for managing pruritus, examining both synthetic and natural medicaments to provide a balanced perspective on their efficacy and safety.

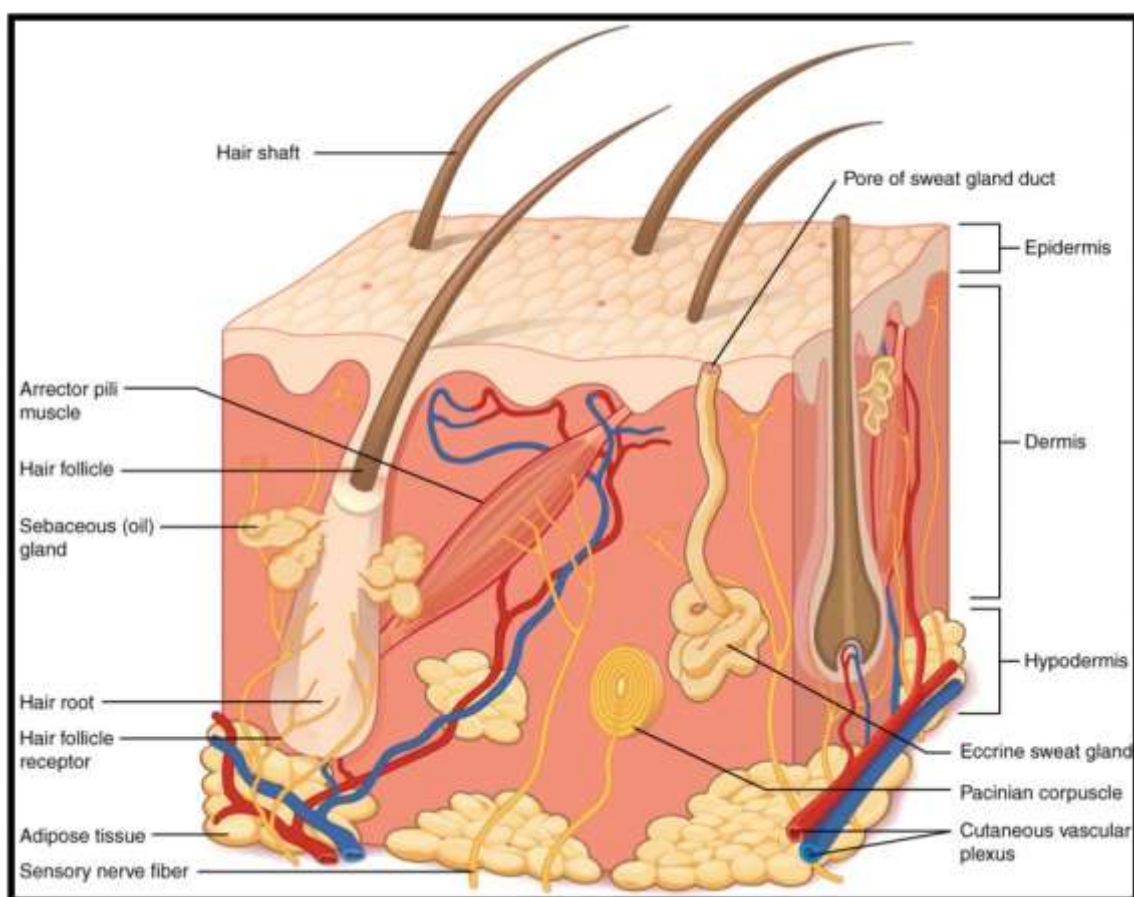


Fig. 1: Skin and its layers.

VARIOUS SKIN DISORDERS THEIR FIGURES AND SYMPTOMS

- ~ Small, raised bumps on brown or black skin
- ~ Thickened skin
- ~ Cracked skin
- ~ Red, dry or scaly patches
- ~ Oozing and crusting
- ~ Darkening of the skin around the eyes
- ~ Raw, sensitive skin from scratching

Fig 2: Atopic dermatitis.^[12]

- ~ A patchy rash that varies widely, ranging from spots of dandruff-like scaling to major eruptions over the body
- ~ Rashes that vary in color, shades of purple with grey scale on brown skin to red with silver scale on white skin
- ~ Small scaling spots seen in children
- ~ Dry, cracked skin that may bleed

~ Itching, burning or soreness

Fig 3: Psoriasis.^[13]

- ~ Raised bumps on your skin, looks reddish on white skin
- ~ Hives blanch- the center becomes pale when pressed
- ~ Painful swelling (angioedema) of your lips, eyes and inside your throat
- ~ Intense Itching

~Flares triggered by heat, exercise or stress

Fig 4: Urticaria.^[14]

**Fig 4: Scabies.**^[15]

- ~ Thin, wavy tunnels made up of tiny blisters or bumps on the skin
- ~ Intense itching at night or when skin is warmer
- ~ Mild rash that appear as tiny red spots or pimple-like bumps
- ~ Sores on the skin from scratching
- ~ Crusts form when a person develops a severe type of scabies called crusted scabies

**Fig 5: Shingles.**^[16]

- ~ Fluid-filled blisters that break open and crust over
- ~ Pain, burning or tingling
- ~ Sensitivity to touch
- ~ A red rash that begins a few days after the pain
- ~ Itching
- ~ Chills, muscle weakness



between the thighs

Fig 6: Ringworm.^[17]

- ~ A scaly ring-shaped area, on arms, legs, trunk and buttocks
- ~ Itchiness
- ~ Slightly raised, expanding rings
- ~ A round, flat patch of itchy skin
- ~ Overlapping rings
- ~ Scaling, peeling skin may appear on the soles of your feet
- ~ Red spots may appear in the groin area and

Table 1: List Of Various Categories Of Allopathic Drugs Used In The Treatment Of Skin Itching. ^[18-25]

S. NO.	DRUG NAME	BRAND NAME	DOSAGE FORM	DOSE		CLASS	USES	REMARKS
				ADULT	CHILD			
1	Levocetirizine	Xyzal, Levorid	Tablet, syrup	5mg, once daily	2.5mg, once a day	Antihistamine	Treat Allergy symptoms, itching and chronic idiopathic urticaria	
2	Cetirizine	Zyrtec, Cetzine	Tablet, oral solution	10mg, once daily	2.5mg, once a day	Antihistamine	Treat itching, swelling caused by urticaria and atopic eczema	
3	Hydroxyzine	Atarax, Vistaril	Tablet	25mg, thrice daily	50mg, divided into two to four doses per day	Antihistamine	Treat pruritus, dermatoses and urticaria	
4	Fexofenadine	Allegra,	Tablet	60mg twice daily or 180mg once a day	30mg twice daily	Antihistamine	Treat itching, rash and chronic urticaria	
5	Loratadine	Alaspan, Claridin, Lorzet	Tablet	10mg once daily	5mg once daily	Antihistamine	Treat itching of the eyes, nose or throat	
6	Diphenhydramine	Benadryl, zendryl	Oral Solution, tablet	25mg or 50mg three to four times daily	12.5mg or 5ml twice daily	Antihistamine and anti cholinergic	Treat itching of insect bites, sunburns and minor skin irritation	
7	Promethazine	Phenergan, avomine	Tablet, parenteral	25mg once daily orally and 25mg IM	12.5mg IM or IV	Antihistamine and antiemetic	Treat allergic conjunctivitis, itching and watery eyes	
8	Pheniramine	Avil, nicophen	Tablet, parenteral	25mg twice daily orally, 45mg in 2ml twice or thrice IV or IM	12.5mg twice daily orally, 45mg in 2ml twice or thrice IV or IM	Antihistamine	Treat eczema, urticaria, lichen planus and hay fever	
9	Prednisone	Deltasone, omnacortil	Tablet	5mg or 10mg or 20mg once daily	Advised by the doctor	Corticosteroid	Treat allergic disorders, skin conditions, psoriasis and eczema	
10	Methotrexate	Folitrax, Imutrex	Tablet, parenteral	10mg to 25mg orally, IM, IV once weekly	Advised by the doctor	Anti metabolite	Treat severe psoriasis and target cells that drive eczema	
11	Cinnarizine	Stugeron, diziron	Tablet	25mg twice daily	12.5mg twice daily	Antihistamine	Treat chronic urticaria, itchy rash and senile skin pruritus	
12	Chlorphenamine	Aller-Chlor, Chlor-Trimeton	Tablet, oral syrup	4mg tablet or 4mg/10ml	2mg tablet or 2mg/5ml	Antihistamine	Treat urticaria, itchy nose, thorat and watery eyes	

				syrup twice or thrice daily	syrup twice or thrice daily		caused by allergies.	
13	Fluconazole	Diflucan, Trucand	Tablet, suspension	Advised by the doctor	Advised by the doctor	Antifungal	Effective for systemic candidiasis and dermatophyte infections	
14	Terbinafine	Terboderma, tyza, Silka antifungal, Lamisil topical	Tablet, cream, gel, lotion	250mg tablet once daily, topically applied twice daily	Topically applied twice daily	Antifungal	Treat ringworm, athlete's foot, jock itch and yeast infection	
15	Clotrimazole	Candid-V, Itchderm clotrimazole cream	Cream, gel, spray	Topically applied twice daily	Topically applied twice daily	Antifungal	Treat ringworm, athlete's foot, jock itch and yeast infection	
16	Miconazole	Micogel, fungiderm	Cream, ointment, spray	Topically applied twice daily	Topically applied twice daily	Antifungal	Treat ringworm, athlete's foot, jock itch and yeast infection	
17	Econazole	Oricon econazole cream, ecoza	Cream, foam	Topically applied twice daily	Topically applied twice daily	Antifungal	Treat ringworm, athlete's foot, jock itch and yeast infection	
18	Ketoconazole	Ketomac skin cream, Ketoford cream, Ketole shampoo, Ketocip shampoo	Cream, foam, shampoo	Topically applied twice daily, shampoos applied twice or thrice weekly	Topically applied twice daily	Antifungal	Treat ringworm, athlete's foot, jock itch, yeast infection and seborrhea(dandruff)	
19	Tacrolimus	Tacroz, Takfa	Ointment	Topically applied twice daily	Topically applied twice daily	Topical calcineurin	Treat moderate to severe eczema and atopic dermatitis	
20	Hydrocortisone	Cortizone-10, Dermacort	Ointment, cream, lotion	Topically applied twice or thrice daily	Topically applied twice or thrice daily	Corticosteroid	Treat eczema, dermatitis, psoriasis, insect bites and stings	
21	Betamethasone	Betnovate	Cream, ointment, spray	Topically applied twice daily	Topically applied twice daily	Corticosteroid	Treat itching caused by eczema and psoriasis	
22	Clobetasol	Tenovate, clobaderm	Cream, ointment, gel	Topically applied twice daily	Topically applied twice daily	Corticosteroid	Treat plaque psoriasis, eczema and itching, scaling of scalp	
23	Triamcinolone acetonide	Kenalog, triderm	Ointment	Topically applied once or twice daily	Topically applied once or twice daily	Corticosteroid	Treat psoriasis, eczema, dermatitis, itchy and inflamed skin conditions	

Table 2: List Of Various Categories Of Herbal Crude Drugs Used In The Treatment Of Skin Itching.^[26-40]

S. NO.	COMMON NAME	BIOLOGICAL SOURCE	FAMILY	PART OF PLANT	ACTIVE INGREDIENT	USES	REMARKS
1	Aloe vera	Aloe barbadensis	Asphodelaceae	Leaf	Bradykinase Magnesium lactate Aloe vera gel	Reduce excessive inflammation Anti allergic Treat frostbite psoriasis, seborrheic dermatitis	
2	Oat	Avena Sativa	Poaceae	Oat extract	Avenanthramides	They are phenolic compound used in skin itching	
3	Turmeric	Curcuma longa	Zingiberaceae	Rhizome	Curcumin	Effective in treating eczema, herpes zoster and chronic pruritic skin	
4	Chamomile	Matricaria recutita	Asteraceae	Flower extracts	Alpha-bisabolol, chamazulene, apigenin	Possesses anti inflammatory properties, treat bacterial skin diseases	
5	Marigold, genda	Calendula officinalis	Asteraceae	Petals	Quercetin, lutein	Treating rashes, dermatitis and bruises	
6	Sandalwood, Chandan	Santalum album	Santalaceae	Wood	Alpha-santalol	Treatment of inflammatory skin disorders like psoriasis and atopic dermatitis	
7	Liquorice, mulethi	Glycyrrhiza glabra	Fabaceae	Root	Glycyrrhizin	Reduce irritation and inflammation, effective for eczema and psoriasis	
8	Mustard oil	Brassica juncea	Brassicaceae	Seed	Omega-3 fatty acids Allyl isothiocyanate	Decrease inflammation Effective in managing minor skin infections	
9	Neem oil	Azadirachta indica	Meliaceae	Leaf	Azadirachtin, nimbidin	Used to treat eczema, Psoriasis and dermatophytosis	
10	Dodder plant	Cuscuta reflexa	Cuscutaceae	Whole plant, seed	Cuscutin, quercetin, Ethyl acetate	Used for skin diseases, has anti-inflammatory properties Effective for eczema	

11	Aak, madar, milkweed	Calotropis procera	Apocynaceae	Plant	Calotropin, amyirin	Useful in eczema, ringworm infection	
12	Daru haldi, kashmal	Berberis aristata	Berberidaceae	Root	Berberin	Used to treat skin disorders	
13	Amaltas	Cassia fistula	Fabaceae	Stem	Griseofulvin, nystatin	Anti-psoriatic activity	
14	Coconut oil	Cocos nucifera	Arecaceae	Coconut	Lauric acid	Fatty acid that helps prevent infection from itchy skin	
15	Tea tree oil	Melaleuca alternifolia	Myrtaceae	Leaves	Terpinen-4-ol γ -terpinene	Used in treating athlete's foot, fungal infection of nails and allergies	
16	Primrose oil	Oenothera biennis	Onagraceae	Seed	Linoleic acid and Gamma-linolenic acid	It is an omega-6 fatty acid used in skin itching, eczema	
17	Peppermint oil	Mentha piperita	Lamiaceae	Leaf	Menthol, menthone	It soothe irritated skin, oil helps in skin irritations and inflammation	
18	Stinging nettle,	Urtica dioica	Urticaceae	Leaf	Amentoflavone, catechin	They are flavonoids that show anti-inflammatory properties	
19	Basil	Ocimum basilicum	Lamiaceae	Leaf	Eugenol, Linalool	Anti-inflammatory properties for soothing skin irritations Maintain skin health by preventing infections	
20	Shatavari	Asparagus racemosus	Liliaceae	Dried root	Shatavarins, quercetin(flavonoids)	Known for moisturizing and emollient properties, beneficial for irritated skin disease and eczema	
21	Papaya	Carica papaya	Caricaceae	Papaya pulp	Papain, chymopapain	These exfoliate dead skin cells, unclog pores and reduce inflammation and enhance skin's overall appearance	
22	Peepal	Ficus religiosa	Moraceae	Bark	Tannins, Vitamin K, Ropan	Help reduce pain and	

						inflammation related to eczema and controls its symptoms	
23	Camphor	Camphora officinarum	Lauraceae	Oil extracted from wood	1,8 Cineole	Possesses anti-inflammatory effects that relieves skin irritation	
24	Black pepper	Piper nigrum	Piperaceae	Black pepper paste and oil	Piperine	Possess anti-inflammatory effects which help in skin itching and also used for vitiligo	
25	Karanj	Pongamia pinnata	Fabaceae	Seed	Karanjin	It's oil helps in eczema, psoriasis and dermatitis	

Table 3: List of Various Categories Of Marketed Formulations Used In The Treatment Of Skin Itching.

S. NO.	BRAND NAME	COMPOSITION	MANUFACTURED BY	MARKETED BY	DOSE		REMARKS
					ADULT	CHILD	
1	Kayashanti Ayurvedic anti-itching skin oil	Seasome oil, chandan, jatamansi, mulethi, neem, nagarmotha and meda	Navnath Herbals	Navnath Herbal	Apply twice daily	Apply twice daily	
2	Clocip clotrimazole cream	Clotrimazole 1% w/w Benzyl alcohol 1% w/w	Pritam International Pvt. Ltd.	Cipla Health Ltd.	Apply twice daily	Apply twice daily	
3	Betnovate cream	Betamethasone valerate I.P. 0.10% w/w equivalent to Betamethasone chlorocresol 0.1% w/w	GlaxoSmithKline Pharmaceuticals Limited	GlaxoSmithKline Pharmaceuticals Limited	Apply once or twice daily	Apply once or twice daily	
4	Tenovate cream	Clobetasol Propionate IP 0.05% w/w Chlorocresol IP 0.1% w/w	Encube Ethicals Pvt. Ltd.	GlaxoSmithKline Pharmaceuticals Limited	Apply twice or thrice daily	Apply twice or thrice daily	
5	Himalaya vegecort cream	Each 1gm contains Tila(sesamum indicum) 25.0mg. Extracts: Prapunnada(cassia tora) 15.0mg, Tulsi(ocimum sanctum) 5.0mg, Kampilla(mallotus	The Himalaya Drug Company	The Himalaya Drug Company	Apply twice or thrice daily	Apply twice or thrice daily	

		philippinensis) 2.5mg, Oleo-gum- resin 2.5mg. Powder: Gandhaka 5.0mg					
6	Aloderm skin cream	Aloe vera, propylene glycol, cetostearyl alcohol, Isopropyl myristate, sesame oil, niacinamide, liquid paraffin, sorbitol, glycerin, glyceryl stearate, laureth-23, lanolin, vitamin E acetate, disodium EDTA, butylated hydroxy toluene	Rivpra Formulation Pvt. Ltd.	Dabur India Ltd	Apply twice daily	Apply twice daily	
7	Vicco Turmeric skin cream	Extracts of Turmeric(cucuma long, linn-Rhizome powder) 16% w/w, Sandalwood oil(santalum album, linn-stem-oil) 0.5% w/w	Vicco Laboratories	Vicco Laboratories	Apply twice daily	Apply twice daily	
8	Aveeno skin Relief moisturizing lotion	Water, glycerin, distearyldimonium chloride, petrolatum, isopropyl palmitate, cetyl alcohol, dimethicone, Avena sativa(oat), Kernal flour, caprylyl glycol, steareth-20, butyrospermum parkii(shea) butter, sodium chloride	JNTL Consumer Health(India)Pvt. Ltd	Johnson & Johnson Korea Limited	Apply twice daily	Apply twice daily	

REVIEW OF LITERATURE

Simon M. Mueller, Alexander A. Navarini, et al. 2020; Levocetirizine for the treatment of itch in psoriasis patients: An open label pilot study in a real-world setting informed about the study done to patients with psoriasis related itch. Patients were given levocetirizine 5mg or 10mg everyday as a treatment for 5 days. Alter of itch intensity was measured hourly and itch related quality of life was measured at diverse time. Out of 30 patients 29 that are (96%) reported a decline in itch within 5 days. Mean itch decline was 23% after day 1, 40% and

41% after day 3 and 5 respectively, besides only 2 patients out of the 30 reported mild sleepiness. Levocetirizine 5mg or 10mg day by day appears to be a viable treatment.

Chang-Yu Hsieh & Tsen-Fang Tsai, et al. 2021: Use of H-1 antihistamine in dermatology: more than itch and urticaria control: A systemic review mentioned that cetirizine has been demonstrated to decrease the expression of ICAM-1, ICAM-3 and LFA-1 on keratinocytes and movement of inflammatory cells in skin lesions of psoriasis patient. Discharge of histamine from mast cells in psoriasis is imperative for disease maintenance. Cetirizine diminished the phrasing of tryptase positive mast cells and intensified clinical upswing in psoriasis and skin disorders.

Yana Puckett, et al. 2023. Prednisone informed that it reduces inflammation by inhibiting the migration of polymorphonuclear leukocytes and reversing the heightened permeability of capillaries. It also suppresses immune responses by decreasing immune cell activity and overall immune system volume. Its antineoplastic properties might be linked to the inhibition of glucose transport and phosphorylation or the induction of apoptosis in immature lymphocytes. Additionally, it may exhibit antiemetic effects by blocking the nervous input to the brain's vomiting center, potentially through prostaglandin inhibition.

Khalid M Hamed, Ibrahim M Dighriri et al. 2022. Overview of Methotrexate Toxicity: A comprehensive Literature Review informed about the enhanced treatment outcomes, improve patient adherence, and reduce mortality associated with methotrexate (MTX) therapy, it is crucial to minimize its toxicity and gain a thorough understanding of its side effects. This comprehensive review aims to support physicians and researchers by providing insights into MTX toxicity and strategies to manage it effectively. Managing severe MTX toxicity focuses on three primary objectives: eliminating MTX from the bloodstream, administering folinic acid therapy, and addressing organ-specific complications.

Leone P.A. 2007 Scabies and pediculosis pubis: An update of treatment regimens and general review mentioned the standard treatment for scabies is 5% permethrin, which is recommended as the first-line option for cases aged than two months. Following effective treatment, some individuality may witness veritably itchy, sanguine-brown pustules or nodes in the absence of scabies diminutives. These lesions are known as post-scabious granulomas and generally respond well to mild topical corticosteroid.

Gupta P, Kumar A, et al. 2017. A review on phytomedicines used in the treatment of most common skin diseases. Indian Journal of Drugs informed that neem has long been recognized as a traditional remedy for various skin conditions. It can be prepared in both powder and paste forms. Neem cream is popular among individuals dealing with skin issues characterized by dryness or itchiness. This remarkable plant is a valuable source for producing several compounds, including nimbin, gedunin and saannin.

Tiwari A.K., 2015. Indigenous knowledge for treating skin disease in some selected districts of chhatisgarh (India) International Journal of Recent Scientific Research tells, the constituents of *C. nucifera* exhibit various biological effects, including antihelminthic, anti-inflammatory, and antinociceptive properties. Additionally, they demonstrate antioxidant, antifungal, antibacterial, and anticancer activities. This review aims to analyze the chemical composition, pharmacological effects, and toxicological profiles of *C. nucifera* to guide future preclinical and clinical research. Notably, the pharmacological effects of the plant vary depending on the specific part being studied, as different sections of *C. nucifera* contain distinct compounds.

CONCLUSION

In summary, the geography of skin complaint treatment is evolving, with a notable shift towards exploring both allopathic and herbal remedies. While allopathic medicines have long been the foundation of dermatological care, their associated side effects and high costs have led to a growing interest in herbal drugs. The efficacy of colorful herbal phrases supported by traditional use and arising scientific exploration, presents a promising avenue for managing skin conditions.

Herbal treatments not only offer implicit remedial benefits but also align with the adding consumer preference for natural and holistic approaches to health still; the integration of herbal drug into mainstream dermatological practice requires rigorous scientific confirmation and standardization to insure safety, efficacy, and quality.

As the request for herbal phrases continues to expand, it's imperative for experimenters, healthcare providers, and policymakers to unite in advancing our understanding of these natural remedies. By bridging the gap between traditional knowledge and ultramodern wisdom, we can harness the full eventuality of herbal drug in treating skin diseases while insuring that cases admit safe and effective care. Eventually a balanced approach that

incorporates both allopathic and herbal treatments may lead to further comprehensive and individualized operation strategies for individualities suffering from skin conditions.

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