



# Herbal Medicinal Plants Used In Treatment Of Skin Disorders

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## Abstract

Skin diseases are most typical type of infections occurring all told ages of people. The aim of the study isn't solely to visit plant remedies and their elements are oftentimes skin diseases in mortals however conjointly to draw attention for the necessity towards a close study on medicative plants, that may give novel seasoning plant remedies leads for alternative dreadful diseases. This review has highlighted the role and uses of some medicinal plants on different skin diseases.

## Keywords:

Herbs, Medicinal plants, Skin diseases, Acne.

## Introduction

Human skin, the outer covering of the body, is that the largest organ within the body. It conjointly constitutes the primary line of defense. Skin contains several specialized cells and structures. It's divided into 3 main layers videlicet epidermis, stratum and hypodermis. Every layer provides a definite role in the overall perform of the skin. Epidermis, the outer most layer of the skin, varies in thickness in several regions of the body. It's the thinnest on the eyelids (0.05 mm) and also the thickest on the palms and soles (1.5 mm). The dermis also varies in thickness looking on the location of the skin. It's 0.3 millimeter on the palpebra associated 3.0 mm on the rear of the body. The stratum could be attached to an underlying layer or hypodermic animal tissue. The subcutaneous tissue is a layer of fat and connective tissue that homes larger blood vessels and nerves. This layer is very important within the regulation of temperature of the skin itself and also the body. The scale of this layer varies throughout the body and from person-to-person. Hair follicles, sweat glands and greasy glands are the most skin appendages. The skin guards the underlying muscles, bones, ligaments and internal organs. There are 2 general varieties of skin, bushy and hairless skin.1 However, the skin will be dry, sensitive, pale, lax or tired. Individuals deficient in essential nutrients like beta-carotene, the B-complex vitamin vitamins and vitamins C and E

often suffer from the drying of the skin.1 FUNCTIONS OF SKIN as a result of it interfaces with the environment, skin plays a key role in protective (the body) against pathogens. And excessive water loss. Its different functions are insulation, temperature regulation, sensation, storage and synthesis of ergocalciferol by action of ultraviolet (UV) and also the protection of vitamin B folates, absorption of element and medicines and water resistance. Severely broken skin can attempt to heal by forming scar tissue. This can be often stained and depigmented.

## COMMON SKIN PROBLEMS

Skin disease may be a common ill and it have an effect ones all ages from the newborn to the older and cause hurt in variety of ways.1 There are over k conditions that will affect the skin however most skin diseases may be categorized into 9 common types.5 Rashes A rash is a part of red, inflamed skin or a bunch of individual spots. These can be caused by irritation, allergy, infection, an underlying disease, furthermore as by structural defects for example, blocked pores or wrong oil glands. Samples of rashes embody acne, dermatitis, eczema, hives, pityriasis and psoriasis. Microorganism infections These occur once an endemic penetrates the horny layer and infects the inner layers of the skin. Samples of viral skin infections embody herpes simplex, shingles (herpes zoster) and warts. Some general viral infections, corresponding to chicken pox and measles, may additionally have an effect on the skin. Microorganism infections can not be cured with antibiotics. Microorganism infections Such infections are caused by a range of bacteria, the foremost common varieties being staphylococci and streptococci. Microorganism may infect the uppermost layers of skin, the follicles, or the deeper layers of skin. If not treated correctly, these infections could unfold throughout the body. Examples embody impel folliculitis, redness and lyme disease. Microorganism infections are higher treated with antibiotics. Plant infections Harmless fungi are invariably gift on surface of the skin. Infection happens once these organisms enter into the body. These infections are sometimes superficial, touching the skin, hair, nails and include athlete's foot, lock itch and ringworm. However, in individuals with suppressed system or who are taking antibiotics for long amount -, the fungi may spread to deep among the body, inflicting additional serious disease. Parasitic infections These infections occur when exposure to parasites corresponding to lice associate degreed scabies. Pigmentation disorders the quantity of pigment within the skin is decided by the amount of animal pigment being created by the body. Loss of pigment (hypo pigmentation) may be caused by absence of melanocytes, wrong cells, exposure to cold or chemicals, or some styles of infection. A rise in pigment (hyperpigmentation) could also be caused by skin irritation, secretion changes, aging, a metabolic disorder, or the other underlying problem. Age spots, freckles and symptom are samples of hyper pigmentation. Skin problem is an example of hypo pigmentation. Tumors and cancers These growths arise once skin cells begin to multiply quicker than normal. Not each skin growth is cancerous. Some tumors are harmless and can not spread. Carcinoma is that the commonest of all the cancers, touching 800,000 Americans every year. It's caused, in 90% of cases, by sun exposure. The 3 styles of skin cancers are basal cell cancer (the most curable), epithelial cell cancer (which could grow and spread) and skin cancer (the most threatening form). Bar involves protective the skin against damaging ultraviolet rays. Early detection helps to boost the probabilities of a cure. Regular self examinations are, therefore, recommended. Trauma Trauma describes associate degree injury to the skin caused by a blow, a cut, or a burn. Whenever the surface of the skin is broken, the body becomes additional vulnerable to infection and disease. Alternative conditions Wrinkles, rosacea, spider veins and unhealthy veins are among those conditions that can't be showing neatness categorized. Wrinkles are caused by a breakdown of the albuminoid and scleroprotein among the dermis, which ends in drooping skin. Acne rosacea may be a chronic disorder within which the skin of the face becomes red and develops pimples, lesions and more seldom enlargement of the nose. Its cause is unknown. Spider veins and unhealthy veins become apparent once blood vessels enlarge and appear through the surface of the skin.

## SKIN DISEASES CAUSES

The first important factor for good looking is the skin. The quality of skin determines the quality of health also. Skin place a very important role in beautification of the body- In addition to this, outer covering of the body protects the body from many damaging factor which may be harmful for the texture of the skin. Some of these are following:

- (a) Attack of microorganisms
- (b) Effect of harmful Chemicals
- (c) Shock

(d) Temperature

(e) Excessive loss of water

(f) Ultraviolet rays

## SKIN DISORDERS & REMEDIES FOR SKIN DISORDERS

### 1. ECZEMA (DERMATITIS)

Eczema, a term derived from the Greek word meaning ‘to boil’, is a clinical and histological pattern of inflammation of the skin seen in a variety of dermatoses with widely diverse aetiologies. Clinically, eczematous dermatoses are characterized by variable intensity of itching and soreness, and, in variable degrees, a range of signs including dryness, erythema, excoriation, exudation, fissuring, hyperkeratosis, lichenification, papulation, scaling and vesiculation. Histologically, the clinical signs are reflected by a range of epidermal changes including spongiosis (epidermal oedema) with varying degrees of acanthosis and hyperkeratosis, accompanied by a lymphohistiocytic infiltrate in the dermis. The many causes of eczema are not consistently related to the distribution and clinical appearance. In general there are either external factors acting on the skin producing inflammatory changes or it is an endogenous condition. This condition is comparable with Vicharchika in Ayurvedic system of medicine.<sup>6</sup>

#### Contact Eczema

The condition is caused by a type of immune response. It is the classic delayed allergic reaction, because it usually takes 48-72 hours to appear. This reaction is a cell-mediated immune response and occurs when an antigen-presenting cell such as a macrophage processes an antigen and presents it to a specific T-cell. This T-cell is activated by interleukin-5, released by the Langerhans cells. The activated T-cells secrete interleukin-2, which contribute to the proliferation of T-cell, including memory cells. Upon re-exposure to the same antigen, these memory T-cells are activated and secrete substance, i.e., lymphokines. These lymphokines attract inflammatory and immune cells to the site of invasion, where they engulf and destroy the foreign material.

#### Atopic Eczema

This is an antibody-mediated allergic reaction that appears in less than 12 hours. A type of antibody known as IgE, which is attached to the mast cell, encounters an antigen to which it is specific. The IgE triggers an allergic inflammatory response by causing the mast cell to release large amounts of inflammatory mediators, which produce the classic inflammatory and immune response. The rule for treating acute weeping eczema is; “wet on wet”.<sup>7</sup>

A potential link between vitamin D and the development of allergic disease, the so-called “vitamin D hypothesis”, first emerged when higher rates of allergic disease were observed in higher latitudes where vitamin D deficiency is more common. This latitudinal gradient effect has also been seen within countries, for example in both the USA and Australia, there are lower rates of adrenaline auto-injector prescriptions with closer proximity to the equator. Weiland et al. examined climatic conditions at the participating sites in the International Study of Asthma and Allergies in Childhood (ISAAC) study where patterns of global childhood eczema prevalence were determined and identified that the prevalence of eczema symptoms correlated positively with latitude and inversely with mean annual outdoor temperature. Furthermore Silverberg et al. found the prevalence of eczema in children in the United States to be lower in regions with higher annual relative humidity, air temperature and ultraviolet (UV) index. The effect of climatic conditions on eczema symptoms were confirmed in a randomised controlled trial (RCT) by Byremo et al., where 30 children from Norway (latitude 63°N) were sent to stay in Gran Canary (latitude 28°N) for 4 weeks in Spring or Autumn. Eczema severity significantly improved in the children who experienced the sub-tropical climate (21 to 26 °C with relative humidity 67%–72%) compared to the 26 control children who stayed at home in the subarctic/temperate climate in Norway (–5 to 21 °C with relative humidity 74%–80%). These geographical (latitude) and climatic environmental influences on eczema prevalence and severity complement the “vitamin D hypothesis” theory and this initial epidemiological evidence has since driven further observational studies and interventional trials.<sup>8</sup>

- Quercus cortex, Oak Bark: Quercus cortex is the bark of the common oak tree. The two oak species used in medicine are closely related and are used in the same indications.<sup>9</sup>

- Malva sylvestris, High Mallow: The leave of (Malvae folium) and the flowers (Malvae flos) are used medicinally. The mucilage content of the leaves is around 8% and that of the flowers is around 10%.<sup>10</sup>

### Other Medicinal Plants for Treatment of Dermatitis

Good treatment results were recently achieved with an ointment containing *Cardiospermum haticacabum*. The aerial plants of the plant are used as the drug. Anti-inflammatory properties of chamomile can be very useful. In subacut Eczema Lotio alba has proved to be very useful.<sup>11</sup>

Sr.No.	Bitanical Name	Family	Parts used	
1	Quercus	Fagaceae	Bark	9
2	Motva sylvestris	Malvaceae	flower and leaf	10
3	Pine Tar (Softwood Tar), <sup>12</sup>		polycyclic aromatic hydrocarbon	12
4	Pix liquids <sup>13</sup>		oil	13

## 2. PSORIASIS

Psoriasis is a hyper proliferative, autoimmune skin disorder affecting 1–3% of the world's population. Psoriasis is a common skin condition which can be itchy and painful; between 1.5% and 3% of people in the world have psoriasis. Your skin is made up of millions of tiny skin cells. Normally, skin cells die and are replaced by new ones every three to four weeks. In psoriasis, your body begins to make new skin cells more quickly than normal and these build up on the skin in raised patches. This is related to your immune response, which is the way in which your body fights diseases and heals wounds. In psoriasis, your immune system triggers a reaction even though there is no infection or wound to heal. The reasons why it does this are not completely understood but it is mostly caused by variations in your genes. The prescribed synthetic drugs for the treatment of psoriasis are associated with severe side effects, thus, researchers around the globe are searching for new, effective, and safer drugs from natural resources.

Psoriasis is a long-term condition, psoriasis is not infectious, but psoriasis can affect all areas of the skin. This includes the scalp, nails and genital area. It can also affect areas where the skin is folded, for example under your arms, the insides of elbows and knees or under your breasts. These areas are called flexural areas. Psoriasis can range from being a very mild to a very serious condition. At the moment there is no cure for psoriasis, but it can be well controlled by using a variety of treatments.<sup>14</sup>

There are different types of Psoriasis<sup>15</sup>

1. Plaque psoriasis
2. Guttate psoriasis
3. Pustular psoriasis
4. Inverse psoriasis
5. Erythrodermic psoriasis
6. Psoriatic arthritis

### Medicinal Plants for Treatment of Psoriasis

S. No	Botanical name	Family name	Plant parts used	Reference
1	Aloe vera	Liliaceae	Leaf	16
2	Alpinia galanga	Zingiberaceae	Rhizome	17
3	Angelica sinensis	Apiaceae	Root	18
4	Andrographis nallamalayanna	Acanthaceae	Whole plant	19
5	Annona squamosa	Annonaceae	Rhizome and leaf	20
6	Argemone mexicana L.	Papavaraceae	Root	21
7	Azadirachta indica A. Juss.	Meliaceae	Leaves, bark and stem	22
8	Caesalpinia bonducella	Caesalpiaceae	Leaves	23
9	Calendula officinalis	Compositae	Flowers	24
10	Capsicum annum	Solanaceae	Leaves	25

11	Cassia fistula L.	Caesalpiniaceae	Fruit pulp	26
12	Matricaria recutita [ chamomile-pumpkin]	Asteracea	Flowers	27
13	Phyllanthus simplex	Phyllanthaceae	Whole plant	28

### 3. ACNE

Acne is the most common of all the skin problems of which three major forms, acne vulgaris, acne conglobata and acne rosacea are prevalent. Acne vulgaris is characterized as a superficial disease that affects the hair follicles and oil secreting glands of the skin. It manifests as blackheads, whiteheads and inflammation (redness). Acne vulgaris is the least severe form of acne. Acne conglobata is a more severe form with cyst formation and subsequent scarring. Acne rosacea is a chronic acne-like eruption on the face of middle aged and older adults associated with facial flushing.

Acne affects both males and females although males tend to have more with the onset of puberty. The occurrence is due to the fact that male sex hormones such as testosterone stimulate the cells that line the follicular canal to produce keratin and the enlargement of the sebaceous glands that results in the production of more sebum. This results in the formation of the pimple and the blockade of the canal. If the blockade is complete, it results in the formation of white head and if the blockade is incomplete, black head will be formed. The blockade of the canal also leads to the over growth of Propionibacterium acnes (Corynebacterium acnes),

which releases enzymes that breakdown sebum and promote inflammation. Inflammation results in the redness of the pimple. Another cause for acne is the low levels of 5- $\alpha$ -reductase, which convert testosterone to a more potent form dihydrotestosterone (DHT) (Takayasu et al, 1980). Intestinal toxemia, where more toxins are absorbed from the intestine, which in turn leads to increased blood level of toxins, is yet another contributor to acne.<sup>29</sup>

### Causes of acne

- **Menstrual cycle** - Girls and women with acne tend to get it worse one or two weeks before their menstrual period arrives. This is probably due to hormonal changes that take place. Some people say they eat more chocolate during this time and wonder whether there may be a connection. However, experts believe the worsening acne is not due to chocolate, but rather to hormonal changes.
- **Anxiety and stress** - mental stress can affect your levels of some hormones, such as cortisol and adrenaline, which in turn can make acne worse. Again, stress can make some people binge-eat. Experts believe the culprits are most likely the hormone levels, rather than the binge-eating.
- **Hot and humid climates** - when it is hot and humid we sweat more. This can make the acne worse.
- **Oil based makeups** - moisturizing creams, lubricating lotions, and all makeup that contains oil can speed up the blocking of your pores.
- **Greasy hair** - some hair products are very greasy and might have the same effect as oil based makeup. Hair products with cocoa butter or coconut butter are examples
- **Squeezing the pimples** - if you try to squeeze pimples your acne is more likely to get worse, plus you risk scarring.

- **Make-up and hair care products** -can clog pores. When shopping, look for the following acne-friendly terms on product labels: —oil-free, —non-comedogenic, or —non-acneogenic.
- **Physical pressure** -Pressure due to a chin strap, phone receiver, sports helmet, headband, guitar strap, bra strap and other tight clothing can lead to localized acne that develops at the point of skin contact. Sweating
- **Sweating**-can worsen acne in some people. Most likely, it is because sweating helps to clog pores, especially if trapped under clothing.
- **Over washing**-Washing your face twice a day with a mild cleanser is recommended for acne-prone skin. Cleaning it more often, scrubbing/exfoliating, or using strong cleansers or astringent products (i.e. toners with alcohol) can actually strip the skin and irritate it, which can lead to more acne.
- **Medications**- Certain medications can cause acne to flare up, such as oral corticosteroids, some contraceptive pills (progestin only), and anti-convulsives, to name a few. Menstrual cycle Many girls and women may notice that their acne flares up as they are nearing their monthly period.
- **Picking or squeezing**-Touching acne lesions can make them worse and raise the risk of permanent scarring. Squeezing or popping pimples can cause an eruption of sebum and bacteria into surrounding skin tissues leading to more swelling and redness and possibly infection
- **Food-Actually**, no study has yet proven that any specific foods or dietary habits can cause or worsen acne. However, if you find that a certain kind of food seems to aggravate your acne, try removing it from your diet. Removing entire food groups from your diet, though, is not healthy so is not recommended.

### Conclusion:-

Herbals plant elements are a wealthy supply of lively elements and may be more secure and value powerful remedy for pores and skin sicknesses starting from rashes to dreadful pores and skin cancer. The consequences of the existing observe offer proof that natural medicinal plant life keep to play an vital position withinside the healthcare machine of this tribal community.

### References:-

1. Marks JG, et. al., 4th ed. Elsevier Inc; 2006. Lookingbill and Marks' Principles of Dermatology.
2. Proksch E, et. al., The skin: An indispensable barrier. *Exp Dermatol.* 2008;17:1063–72.
3. Madison KC. Barrier function of the skin: “la raison d’être” of the epidermis. *J Invest Dermatol.* 2003;121:231–41.
4. Grice EA, et al. Topographical and temporal diversity of the human skin microbiome. *Science.* 2009;324:1190–2.
5. Plants used to treat skin diseases, Nahida Tabassum and Mariya Hamdani, *Pharmacogn Rev.* 2014 Jan-Jun; 8(15): 52–60.
6. Manisha et al., A Clinical Study Of Eczema By Topical Application Of Leaves Of Cassia Fistula Linn, *World Journal of Pharmacy and Pharmaceutical Sciences*, Vol 4, Issue 08, 2015.
7. Simon Francis Thomsen, Atopic Dermatitis: Natural History, Diagnosis, And Treatment Herable Remedie, *ISRN Allergy Volume 2014*, Article ID 354250, pages 1-7

8. Debra J. Palmer, Vitamin D and the Development of Atopic Eczema, *J. Clin. Med.* 2015, 4, 1036-1050
9. Neal Bhatia MD, et. al Applications of Topical Oak Bark Extract in Dermatology: Clinical Examples and Discussion, *J Drugs Dermatol.* 2019;18(2):203-206.
10. Behrooz Barikbin, et. al., *Malva Sylvestris* in the treatment of hand eczema, *Iranian Journal of Dermatology*, Vol 13, No 4, Winter 2010
11. Otto Raubenheimer. Brooklyn, N. Y. *Lotio Alba* *The Journal of the American Pharmaceutical Association* (1912) Volume 3, Issue 5, May 1914, Pages 692-695
12. Barnes TM, et. al., Topical pine tar: History, properties and use as a treatment for common skin conditions. *Australas J Dermatol.* 2017 May;58(2):80-85.
13. Alain Sarembaud, Eczema: Pix liquida, as a homeopathic medicine, *La Revue d'Homéopathie*, Volume 11, Issue 1, 2020, Pages e11-e13,
14. Rendon, A., & Schäkel, K. (2019). Psoriasis Pathogenesis and Treatment. *International journal of molecular sciences*, 20(6), 1475.
15. Gazi Shaikh (2012) *International journal of ayurvedic & herbal medicine* 2(3) June. (455463)456.
16. Syed TA, et. al, Management of psoriasis with Aloe vera extract in a hydrophilic cream: a placebo-controlled, double-blind study. *Trop Med Int Health.* 1996 Aug;1(4):505-9.
17. Chanachai Saelee et. al., Effects of Thai Medicinal Herb Extracts with Anti-Psoriatic Activity on the Expression on NF- $\kappa$ B Signaling Biomarkers in HaCaT Keratinocytes, December 2011, *Molecules* 16(5):3908-32
18. Dan Dai, Haoran Wu, et. al., Evidence and potential mechanisms of traditional Chinese medicine for the treatment of psoriasis vulgaris: a systematic review and meta-analysis, *Journal of Dermatological Treatment*, (2020)
19. Sunitha Parlapally et. al., Chemical profiling and anti-psoriatic activity of methanolic extract of *Andrographis nallamalayana* J.L.Ellis, July 2015 *Natural Product Research* 30(11):1-6.
20. Sandeepa S.Bhoir et.al., Antipsoriatic potential of *Annona squamosa* seed oil: An in vitro and in vivo evaluation, *Phytomedicine*, Volume 54, 15 February 2019, Pages 265-277.
21. Mohammad Gayoor Khan, Ethnopharmacological Studies of *Argemone mexicana* for the Management of Psoriasis Followed by Molecular Techniques through Metabolomics, *Biomed Research and Health Advances*, 019 | Volume 1 | Article 1003, 09-13.
22. Mazni Musa et. al., *Azadirachta Indica* Extract (Neem) As Skin Solution Soap, *Journal Of Academia* Vo. 7, Issue 2 (2019) 159-16.
23. Pandey, Desh Deepak et al. "Caesalpinia bonducella: A pharmacological important plant." *The Pharma Innovation Journal* 7 (2018): 190-193.
24. Khulood M. Alsaraf., et.al., Extraction and Clinical Application of *Calendula officinalis* L . Flowers Cream, *IOP Conf. Series: Materials Science and Engineering* 571 (2019) 01-10.
25. S. Basharat et .al., Capsaicin: Plants of the Genus *Capsicum* and Positive Effect of Oriental Spice on Skin Health, January 2021 *Skin Pharmacology and Physiology* 33(6):1-11.

26. Nguyen Thanh Tram et.al, Assessment of Anti-psoriatic Activity of Cassia fistula L. Extract Incorporated Cream, 2015 , Journal of Pharmaceutical Research International, Page 370-378.
27. Sima Kolahdooz et.al., Evaluation of the efficacy of a topical chamomile-pumpkin oleogel for the treatment of plaque psoriasis: an intra-patient, double-blind, randomized clinical trial, Biomedical Research and Therapy, Vol 5 No 11 (2018) / 2811-2819.
28. Sushil K. Singh et.al., Assessment of in vitro antipsoriatic activity of selected Indian medicinal plants, Pharmaceutical Biology, 53:9, 1295-130

