

## A Review: Herbal Drugs Used in Skin Disorder

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### ABSTRACT

The human body's skin is an organ that allows it to interact with the environment while also shielding it from harmful external influences. People of all ages suffer from skin diseases all over the world. It's vital to keep your skin in good form for a healthy physique. Plants have been employed in some form or another since the beginning of time. This research has highlighted some prevalent skin disease issues, as well as the herbals utilized in disease therapy and the various formulations accessible in the pharmaceutical industry. Some medicinal plants have been shown to be quite effective in removing or reducing skin infection disorders.

**KEYWORDS:** Medicinal plant, skin diseases, Ethno medicine, skin disorder

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### 1. INTRODUCTION

Herbal therapy for skin disorders has been used for thousands of year. Even our biologically close relatives, the great apes, use herbal self medication. Specific herbs and their uses developed regionally, based on locally available plants and through trade in enthobotanical remedies. Systems of herbal use developed regionally in Europe, Middle East, Africa, India, China, Japan, Australia, and therefore the Americas. two documented system still in use are the ayurvedic herbs in India and herb combinations developed as a part of traditional Chinese medicine in china. In Europe and the United States, use of herbs declined as purified extracts and synthetic chemical drug become available.

Herbal medicines, particularly those for skin ailments, are becoming increasingly popular among Patients and, to a lesser extent, with doctors. Herbal remedies that have been utilised for generations in Asia, particularly China and India, are now being investigated scientifically. Herbal medicines and their indicated uses are overseen by the Germen regulatory authority Commission E. Currently, herbal items are

only regulated as dietary supplements in the united State. Active substances, purity, and concentration are not standardised. There are also no Restrictions on which herbs can be sold for certain purposes.

The essential advantage of utilizing plant inferred meds are that they are somewhat more secure than manufactured other options, offering significant restorative advantage and more moderate treatment[1].around 200 years prior our pharmacopeia was dominated by natural medicines[2]. And practically 25% of the medications endorsed overall came from plants. A large number of the plant materials utilized in conventional medication are promptly accessible in rustic regions at generally less expensive than present day medication[3].

#### ➤ ANATOMY OF SKIN

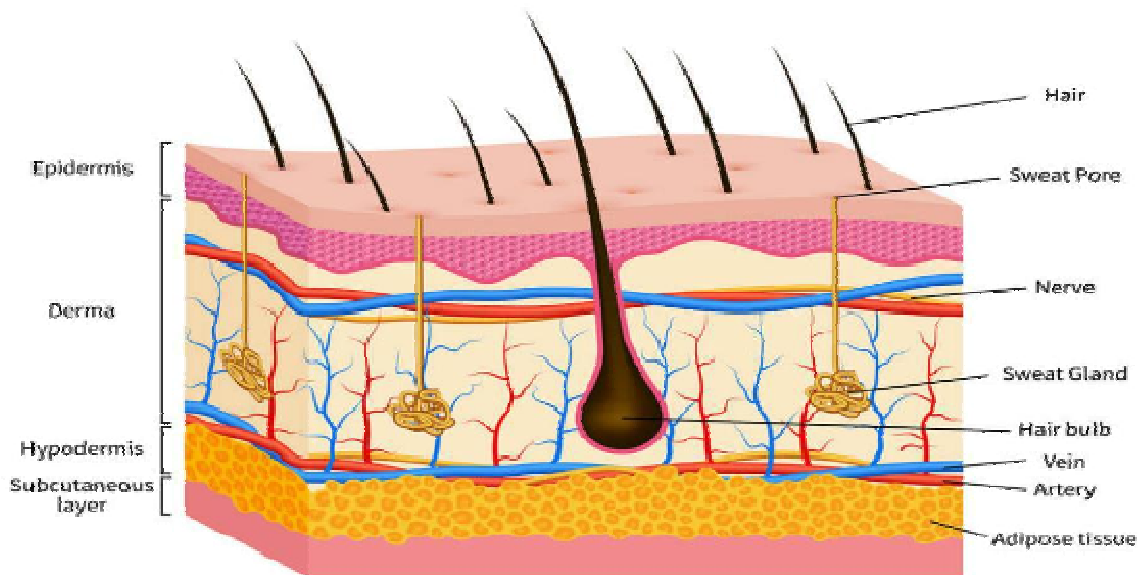
The skin is the biggest organ of the body, with a complete space of around 20 square feet. The skin shields us from organisms and the components, makes a difference manage internal heat levels, and licenses the vibes of touch, heat, furthermore, cold. The skin monitors the fundamental muscles, bones,

tendons and inside organs. There are two general kinds of skin, hairy and glabrous skin [4]. However, the skin can be dry, touchy, pale, drooping or tired. Individuals inadequate in fundamental supplements like beta carotene, the B complex nutrients and nutrients C and E frequently experience the ill effects of the drying of the skin.

➤ **SKIN HAS THREE LAYERS**

- The Epidermis, the furthest layer of skin, gives a waterproof Barrie and makes our skin tone.
- The Dermis, underneath the epidermis, contains extreme connective tissue, hair follicles, and sweat glands.
- The more profound subcutaneous tissue (hypodermis) is made of fat and connective tissue.

## SKIN ANATOMY



### 2. Functions of skin

Since it interfaces with the climate, skin assumes a critical part in ensuring (the body) Against Pathogens.[5,6] and inordinate water loss.[6] its different capacities are Protection, temperature guideline, sensation, stockpiling and combination of nutrient D By activity of bright (UV) and the security of nutrient B folates, ingestion of oxygen and Drugs [7] and water resistance.[8] seriously harmed skin will attempt to recuperate by Shaping scar tissue. This is regularly stained and depigmented.

### 3. COMMON SKIN PROBLEMS

Skin infection is a typical sickness and it influences all ages from the youngster to the old and cause hurt in number of ways.[1] There are in excess of thousand conditions that might influence the skin yet most skin illnesses can be sorted into nine normal types Listed as follows [9]

#### A. Bacterial infections

1. Impetigo: Impetigo is a highly contagious skin infection that results in blisters and sores. there are two kinds of people –

A. Non-bullous impetigo: it is a type of impetigo that affects the nose and mouth. Nonbullous impetigo is characterised by thin-walled vesicles that burst producing a honey-coloured crust[10]

B. Bullous impetigo: it is a type of impetigo that usually affects the trunk.



**Fig.1: Impetigo.**

#### B. Fungal infections

On the surface of the skin, harmless fungi are always present. When these germs penetrate the body, infection occurs.

2. Ringworm: Ringworm is a contagious fungal infection that most commonly affects the arms and legs, but it can affect practically any part of the body. It develops a ring-shaped rash that is red or silvery scaly.

➤ Ringworm can affect anyone, but it is more frequent in children.



**Fig.2: Ring worm.**



**Fig.5: Psoriasis**

**C. Viral infections**

When a virus enters the stratum corneum and infects the skin's inner layers, this happens. Herpes simplex, shingles (herpes zoster), and warts are examples of viral skin illnesses. Chicken pox and measles are two examples of systemic viral diseases that can affect the skin. Antibiotics cannot treat viral illnesses.



**Fig.3: Herpes simplex**

**F. Scabies:** Scabies is a contagious skin disorder caused by small mites that burrow into the skin. Itching that gets worse at night and a rash of tiny red dots are the prominent symptoms.



**Fig.6: Scabies**

**D. Inflammatory skin Diseases**

**3. Atopic eczema:** The most common form of eczema, also known as atopic dermatitis, causes your skin to become itchy, red, dry, and cracked.

➤ Most people have it for a long period, though it can improve over time, especially in children.



**Fig.4: Atopic eczema**

**G. Vitiligo:** vitiligo is a condition that causes light white patches on the skin that vary in size and can appear anywhere on the body. They're more evident on parts like the face and hands that are exposed to sunlight. as well as on dark or tanned skin your hair may turn white if you have vitiligo on your scalp.



**Fig.7: Vitiligo**

**E. Psoriasis:** Psoriasis is a T-cell-mediated autoimmune inflammatory skin condition characterised by coetaneous inflammation, increased epidermal proliferation, hyperkeratosis, angiogenesis, and aberrant keratinisation. This disease is seen all across the world, affecting between 2% and 3% of the Population [11, 12].

**H. Acne (Acne vulgarise):** In the United States, acne is the most frequent skin ailment. Acne is traditionally associated with adolescence, but an increasing number of adults is suffering from it as well. Many individuals feel that Acne will go away on its own and that there is no need to worry about it. While this may be true for a tiny proportion of people, it isn't true for the vast majority.





**Fig. 8: Acne**

#### 4. Conventional treatment of skin disease

Topical medicines include the following [13]:

- **Antibacterial:** Antibacterials, such as bactroban and cleocin, are frequently used to treat or prevent infection. Ex. Clindamycin.
- **Anthralin (drithocrema, micanol and others):** Although not commonly used, anthralin can help to treat psoriasis and reduce inflammation.
- **Antifungal agents:** Lamisil, lotrimin, and nizoral are a few typical topical antifungal medications used to treat ringworm and athlete's foot. Ex. Itraconazole
- **Benzoyl peroxide:** Acne is treated with benzoyl peroxide creams and other treatments.
- **Coal tar:** This topical therapy is available with and without a prescription, in dosages ranging from 0.5 percent to 5 percent. Coal tar is used to treat disorders including seborrheic dermatitis (typically in shampoos) or psoriasis. Coal tar is currently rarely utilised due to its delayed action and potential for significant discoloration of personal items and bedding.
- **Corticosteroids:** these are used to treat skin disorders such as eczema and are available in a variety of forms such as foams, lotions, ointments, and creams. Ex. Corticosteroids
- **Retinoids:** The Retinoids (such as retin-A and tazorac) are vitamin A-based gels or creams that are used to treat a variety of diseases, including acne. Ex. Retinol
- **Salicylic:** Salicylic acid comes in a variety of forms, including lotions, gels, soaps, shampoos, and patches. It should be used judiciously because applying too much to one's body at once can be hazardous. Many skin care products contain salicylic acid as an active ingredient for the treatment of acne and warts.

#### 5. Oral treatments for skin conditions

- A. **Antibiotics:** Antibiotics such as erythromycin, tetracycline, and dicloxacillin are commonly used to treat a variety of skin problems. Ex. Amoxicillin.

- B. **Antifungal medicines:** Ketoconazole and diflucan are two common antifungal drugs that can be used to treat more serious fungal infections.
- C. **Antiviral drugs:** Valtrex, acyclovir, and famciclovir are examples of antiviral drugs. Antiviral therapies are used to treat a variety of skin disorders, including herpes.
- D. **Corticosteroids:** Corticosteroids, such as prednisone, are used to treat skin disorders associated with autoimmune diseases, such as vasculitis and inflammatory diseases like eczema and psoriasis. Dermatologists prefer topical steroids to avoid adverse effects; however prednisone must occasionally be used for a short period of time. Ex Prednisone.
- E. **Immunosuppressants:** Immunosuppressants, such as azathioprine and methotrexate, are used to treat a variety of disorders, including severe psoriasis and eczema.
- F. **Biologics:** These innovative medicines are the most up-to-date treatments for psoriasis and other skin disorders. Enbrel, humira, remicade, stelara, and amevive are examples of biologics.

#### ➤ Herbal drug

Herbal drugs are prepared from the roots, stems, leaves, bark, fruit, seeds, Or flowers of plants that have medical properties or are thought to have Therapeutic benefits. Many conventional medications are also effective. Generated from vegetation in reality, the word “drug “is derived from the French word *drogue*, which means “dried herb”.

Herbal and conventional medications, on the other hand, have considerable Differences. when a conventional medication is created from a plant, it is a refined form of the plant's unique component that has been shown to have a Positive medicinal impact. This component is referred to as the active Ingredient. Supplied in a specific amount, or dose to the patient.

#### 6. Herbal drugs for skin diseases

Natural medications derived from plants are gaining popularity due to a number of advantages, including fewer side effects, improved patient tolerance, and a lower cost. They are also more accepted due to a long history of use. Aside from providing reasonable means for the treatment of many diseases that are intractable and incurable in other systems of medicine, herbal medicines give a rational method for the treatment of many diseases that are obstinate and incurable in other systems of medicine. As a result, a variety of plants have been studied for the treatment of skin conditions ranging from itching to skin cancer. During the past 17 years of research (1995–

2012), 31 plants have been reported to be useful in various skin conditions, which are listed below.

➤ ***Achyranthes aspera* (Common name: Prickly chaff flower, Devil's horsewhip; Family: Amaranthaceae)**

The plant has traditionally been used to treat boils, scabies, skin eruptions, and other skin ailments. The MeOH extract, alkaloid, non-alkaloid, and saponin fractions of *A. niger* leaves were obtained. In Raji cells, *aspera* had a considerable inhibitory effect (concentration 100 g) on the activation of the Epstein-Barr virus early antigen (EBV-EA) generated by the tumour promotor 12-O-tetradecanoylphorbol-13-acetate (TPA). The non-alkaloid fraction, which contains mostly non-polar chemicals, demonstrated the most substantial inhibitory activity in this in vitro assay (96.9 percent ; 60 percent viability). The entire methanolic extract had a strong anticarcinogenic effect in a two-stage in vivo mouse skin carcinogenesis test (76 percent ). Leaf extract and the non-alkaloid fraction were found to be effective antitumor promoters in carcinogenesis. [14]

➤ ***Allium cepa* is a type of onion (Common name: Onion; Family: Liliaceae)**

An investigation into the ability of onion extract gel to improve the appearance of scars following excision in patients with seborrheic keratoses found that the extract gel improved scar softness, redness, texture, and overall appearance at the excision site at study weeks 4, 6, and 10, as determined by a blinded investigator.[15]

Aqueous extracts from *Allium cepa* (onion; AOE) and *Allium sativum* (garlic; AGE) were tested for antifungal activity against *Malassezia furfur* (25 strains), *Candida albicans* (18 strains), other *Candida* sp. (12 strains), and 35 strains of other dermatophyte species in another study.[16]



Fig.9: Allium.

A. ***sativum* (Common name: Garlic; Family: Liliaceae)**

In a study of Swiss albino mice infected with cancer caused by 7,12 dimethylbenz(a)anthracene (DMBA), the best chemopreventive activity of garlic was seen in mice treated with garlic both before and after the development of skin carcinogenesis. Garlic consumption delayed the production of skin papillomas in animals and reduced the size and number of papillomas at the same time, as seen in the skin histology of the mice. Garlic's ability to protect mice from skin cancer is thought to be attributed, at least in part, to the stimulation of cellular defence systems. [17]







**Fig.10: Sativum.**

➤ ***Aloe vera* (Common name: Barbados aloe; Family: Xanthorrhoeaceae)**

Aloe vera has demonstrated to be effective in the treatment of skin problems, and it is frequently used as a health beverage. It's also been shown to help with wrinkles, stretch marks, and discoloration. It also appears to have the ability to accelerate wound healing by increasing blood circulation and preventing cell death around a wound. One of the studies conducted on mice to investigate the effects of *Scutellariae radix* and Aloe vera gel (AV) in spontaneous atopic dermatitis (AD)-like skin lesions found that the group receiving only AV at a dose of 0.8 mg/kg p.o. provided relief in AD due to lower levels of interleukin (IL)-5 and IL-10. [12]



**Fig.11: Aloe Vera**

➤ ***Azadirachta indica* (Common name: Neem; Family: Meliaceae)**

Externally, leaf extract is used to treat boils and blisters. [23] In one study, mice were given topical DMBA (500 nmol/100 l for 2 weeks) followed by TPA (1.7 nmol/100 l of acetone, twice weekly) as a promoter to produce skin tumours. For 20 weeks, the test group was given aqueous *Azadirachta indica* leaf extract (AAILE) three times a week at a dose of 300 mg/kg body weight. The findings of this investigation demonstrated that *A. indica* has chemopreventive potential against skin cancer in mice. [24]

The goal of this study was to see if aqueous AAILE has a modulator effect on cell cycle-associated proteins during two-stage skin carcinogenesis in mice. Skin tumours were produced by topical administration of DMBA as a carcinogen followed by repeated application of TPA as a promoter. In compared to the control group, skin tumours from the DMBA/TPA group had increased expression of proliferating cell nuclear antigen (PCNA, index of proliferation), p21, and cyclin D1, but no changes in p53 expression. In compared to the DMBA/TPA group, tumours in the AAILE + DMBA/TPA group had lower PCNA and cyclin D1 expression and higher expression of p53 and p21. The findings of the study revealed that AAILE acts as a pro-oxidant in tumours, making them more vulnerable to damage and ultimately leading to its anti-neoplastic effect. AAILE may also alter the passage of cells through the cell cycle via modulating cell cycle regulatory proteins. [25]

Another study found that ethanol extracts of *Andrographis paniculata*, *Glycyrrhiza glabra*, *Ocimum sanctum*, *A. indica*, and Green tea had the potential to inhibit acne when used in an anti-acne moisturiser formulated from herbal crude extracts and investigated for physico-chemical parameters as well as antibacterial activity of the formulation. The ideal anti-acne moisturiser recipe was found to be helpful in controlling acne-inducing microorganisms such as *Staphylococcus epidermis* and *Propionibacterium*. [26]





Fig.12: Azadirachta indica

➤ ***Beta vulgaris* (Common name: Beetroot; Family: Brassicaceae)**

When compared to capsanthin, cranberry, red onion skin, and short and long red bell peppers, the in vitro inhibitory impact of beet root extract on EBV-EA induction using Raji cells indicated a high order of activity. An in vivo study of anti-tumor promoting activity in mice skin and lung bioassays also demonstrated a strong tumour inhibiting impact. The findings imply that consuming beetroot can be one of the most effective ways to avoid cancer. [27]



Fig.13: Beta vulgarise

➤ ***Brassica oleraceae* (Common name: Red Cabbage; Family: Brassicaceae)**

Skin cancer was generated in mice by a single topical application of 200 nmol of the initiator DMBA to their backs, followed by 10 nmol of TPA twice weekly for 30 weeks, followed by 0.1 g/L of aqueous extract of B. 1 week after initiator treatment to oleraceae. [28]

➤ ***Calendula officinalis* (Common name: Marigold; Family: Asteraceae)**

Marigold flowers have been used in folk medicine for centuries, and Decoctions and tinctures made from the flowers have been attributed to more Than 35 properties. Burns (including sunburns), bruises, and cutaneous and Internal inflammatory diseases of various origins are the most common uses. Topical formulations containing marigold extract (ME) were evaluated in hairless mice against UV-B irradiation-induced photo damage, and it was discovered that application of ME in gel formulations containing 0.21 g/cm of narcissi and 0.07 g/cm of rutin in the viable epidermis was linked to a possible improvement in collagen synthesis in the sub epidermal connective tissue. [29]

One of the trials conducted on 34 patients with venous leg ulcers to investigate the therapeutic efficacy of ME on the epithelialization of lower leg venous ulcers found that generating epithelialization significantly accelerated wound healing. [30] When tested on healthy human volunteers, research on cream compositions including seven distinct types of marigold and rosemary extracts demonstrated that they are efficacious in experimentally generated irritating contact dermatitis. [31]

➤ ***Camellia sinensis* (Common name: Green tea, Chaay; Family: Theaceae)**

Green tea, which is made from the tea plant *C. sinensis*, may aid in the treatment of skin cancer and tumours. Polyphenols, which work as antioxidants in the body, are found in it. According to the National Centre for Complementary and Alternative Medicine, a polyphenol found in green tea called epigallocatechin gallate has been shown to delay the initiation of additional skin tumour growth in the body. It has the ability to regenerate ageing skin cells, allowing them to begin reproducing again and keeping the skin looking younger. [32]







FIG.14: *Camellia sinensis*

➤ *Crocus sativus* (Common name: Saffron; Family: Iridaceae)

Saffron is a natural plant product with antispasmodic, diaphoretic, carminative, emmenagogic, and sedative properties. A histological technique was used to investigate the chemopreventive impact of aqueous saffron on chemically induced skin carcinogenesis. Its consumption prevented the creation of cutaneous papillomas in animals and reduced their size at the same time. When injected early, saffron prevented DMBA-induced skin cancer in mice. This could be attributable to the induction of cellular defence systems, at least in part. [33] It's also been reported to help in psoriasis therapy. [34]



Fig. 15: *Crocus sativus*

➤ *Curcuma longa* (Common name: Turmeric; Family: Zingiberaceae)

In a study on male Swiss albino mice, skin cancer was generated by topical application of DMBA, and the group receiving 1 percent curcumin derived from *C. longa* rhizomes had a substantial reduction in the number of tumours per mouse. [35] rheumatoid arthritis pain is pain caused by an inflammatory condition such as rheumatoid arthritis.

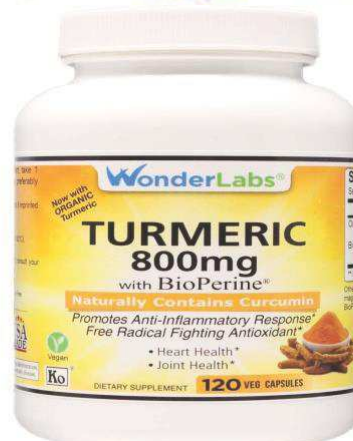


Fig.16: *Curcuma longa*

➤ *Daucus carota* (Common name: Carrot; Family: Apiaceae)

A study that looked at the chemopreventive effects of oil extract from *D. carota* umbels on DMBA-induced skin cancer in mice for 20 weeks found that intraperitoneal (0.3 ml of 2 percent oil) and topical (0.2 ml of 5, 50, and 100 percent oil) administration reduced tumour incidence significantly, but gavages'



administration reduced tumour incidence the least (0.02 ml of 100 percent oil). [36]



**Fig.17: *Daucus carota***

➤ ***Eucalyptus globulus* (Common name: Blue gum, Camphor oil; Family: Myrtaceae)**

In a human investigation, it was discovered that treating human face demodicidosis with freshly made camphor oil with or without glycerol dilutions resulted in complete cure at doses of 100%, 75%, and 50%, respectively. [37]

Camphor oil, with or without glycerol dilutions, totally cured zoonotic scabies with concentrations of 100 percent, 75 percent, and 50 percent within 5-10 days in a human study. [38]



**Fig.18: *Eucalyptus globulus***

➤ ***Lawsonia inermis* (Common name: Henna; Family: Lythraceae)**

Henna is a Middle Eastern herb that is typically applied to the hands and feet. In the traditional system of medicine, leaf paste is applied twice a day to the affected areas to cure impetigo.[39] A study compared clinical improvement in patients henna, which revealed anti-inflammatory, antipyretic, and analgesic effects of henna.[40]



**Fig.19: *Lawsonia inermis*.**

➤ ***Mangifera indica* (Common name: Mango; Family: Anacardiaceae)**

The gum is utilised in scabies and cracked foot treatments. Ulcers are treated using latex. The anti-inflammatory efficacy of aqueous stem-bark extract (MIE, 50-800mg/kg i.p.) against fresh egg albumin-induced paw edema in rats was dose-dependent and significant (P 0.05-0.001). [44]



**Fig.20: *Mangifera indica***

## 7. Benefits of herbal medicine

- Herbal medicines, like conventional medicine, have been utilised for thousands of years. Herbal medicine is, in reality, the foundation of modern medicine. There are also relatively few natural adverse effects with this medication. Unfortunately, when it comes to herbal medicine, it frequently takes a back place. Compared to traditional pharmacological therapy, which is unfortunate because herbal medicines have a lot to offer. There are numerous health advantages. Herbal medicine is widely used in today's world to treat a variety of ailments. Illnesses that are severe and persistent.
- More cost-effective than traditional medicine
- It's a lot easier to get than prescribed drugs.
- Hormones and metabolism are stabilised.
- Natural treatment
- Immune system fortification
- There are less side effects.
- cost-efficient

## 8. Special considerations for herbal medicines

- Because herbal treatments are natural, they may be misunderstood to be fully safe. This is not the case.
- Herbal drugs can cause allergic reactions, rashes, asthma, and other side effects. Headaches, nausea, vomiting, and diarrhoea in varying degrees of severity. Other than that, Herbal medicine and prescription drugs should always be prescribed by a licence physician or medical professional
- If you are pregnant or trying to become pregnant, always notify your herbal therapist about any allergic reactions you have had.

- It's important to remember that herbal medicine can combine with other drugs.
- Herbal drugs and supplements can interact negatively with over-the-counter medications or any prescription drugs you're taking
- Herbal supplements may reduce the effectiveness of other medications you're taking Alternatively, it may exacerbate the unfavourable side effects.
- If you're thinking about taking herbal remedies, talk to your doctor about the potential adverse effects and interactions with other prescriptions you're taking.
- Invest in herbal medicine from a trusted seller.
- Not all herbal remedies on the market are risk-free. Always buy your medications from a respected doctor or pharmacist.
- When buying herbal remedies over the internet, be cautious. Unregulated herbal medications imported from other countries may not meet the same quality and safety standards as regulated medicines. In certain circumstances, products purchased via the internet have been discovered to be counterfeit have high levels of lead, mercury, or arsenic, which can be harmful to one's health issues.
- Herbal medications produced in Australia are governed by laws. Consult a professional pharmacist about the herbal medicine or supplements you're taking and their safety and effectiveness are considering purchasing If you're thinking about using herbal medicine, it's a good idea to do some research beforehand which you:
- Never discontinue taking prescribed medications without first consulting your doctor, and always inform your doctor if you plan to begin a herbal medicine course for your ailment.

## 9. CONCLUSION

Herbs have a lot of potential for treating a variety of skin conditions. In India, more than 80% of people rely on traditional medicine and employ a variety of plant-based medicines to treat skin disorders. They offer a lot of advantages over traditional allopathic medications. It is relatively inexpensive and can be of considerable service to the Indian populace in general, particularly the impoverished Specifically, individuals. Herbals are a good source of active chemicals and can be cheaper and safer than pharmaceuticals. Effective treatment for a variety of skin conditions, from rashes to deadly skin cancer. Deforestation, habitat destruction, urbanization, and other activities that may constitute a major threat to



plant species essential for treating skin illnesses appear to be restricted to forests, therefore activities such as deforestation, habitat destruction, and urbanization may offer a serious threat. These species are in jeopardy. With the support of local participation and conservation, these plants can be saved. Significant research in this area is being carried out in order to widen the prospects for herbal medications in the future. The treatment of skin diseases is urgently required.

## REFERENCES

- [1] Iwu, M. W., Duncan, A. R. & Okon, C. O. (1999). New Antimicrobial of plant origin. In: Perspective on New crops and New uses. Janick, J. (Ed. ), Alexandra Press, VA.
- [2] Ernst E (2005). The efficacy of herbal medicine An overview. *Fundamental and Clinical Pharmacol.* 19:405-409
- [3] Mann A, Banso A, Clifford LC. An antifungal property of crude plant extracts from *Anogeissus leiocarpus* and *Terminalia avicennioides*. *Tanzania J. Health Res* 2008; 10 (1): 34-38.
- [4] Marks JG, Miller J. 4th ed. Elsevier Inc; 2006. Lookingbill and Marks' Principles of Dermatology. ISBN no. 1416031855. [Google Scholar]
- [5] Proksch E, Brandner JM, Jensen JM. The skin: An indispensable barrier. *Exp Dermatol.* 2008;17:1063–72. [Abstract] [Google Scholar]
- [6] Madison KC. Barrier function of the skin: “la raison d'être” of the epidermis. *J Invest Dermatol.* 2003;121:231–41. [Abstract] [Google Scholar]
- [7] Grice EA, Kong HH, Conlan S, Deming CB, Davis J, Young AC, et al. Topographical and temporal diversity of the human skin microbiome. *Science.* 2009;324:1190–2. [Europe PMC free article] [Abstract] [Google Scholar]
- [8] Pappas S. American Association for the Advancement of Science; 2009. [Last accessed on 19-04 -2012]. Your Body Is a Wonderland of Bacteria. *Science NOW.* Available from: <http://news.sciencemag.org/sciencenow/2009/05/28-01.html>. [Google Scholar]
- [9] [Last accessed on 19-04-2012]. Available from: [http://www.essentialdayspa.com/Skin\\_Anatomy\\_And\\_Physiology.htm](http://www.essentialdayspa.com/Skin_Anatomy_And_Physiology.htm).
- [10] Kohn LT, Corrigan J, Donaldson MS. *To Err Is Human: Building a Safer Health System.* Washington, DC: National Academy Press; 2000.
- [11] Parisi R., Symmons D. P., Griffiths C. E., Ashcroft D. M. Global epidemiology of psoriasis: A systematic review of incidence and prevalence. *J. Investing. Dermatol.* 2013;133:377– 385. doi: 10.1038/jid.2012.339. [Pub Med] [Cross Ref] [Google Scholar]
- [12] Langley R. G., Krueger G. G., Griffiths C. E. Psoriasis: Epidemiology, clinical features, and quality of life. *Ann. Rheum. Dis.* 2005;64(Suppl. 2):ii18–ii23. doi:10.1136/ard.2004.033217. [PMC free article] [Pub Med] [Cross Ref] [Google Scholar]
- [13] [Last accessed on 19-04-2012]. Available from: <http://www.webmd.com/skin-problems/treatments/medications-skin-co>.
- [14] Chakraborty A, Brantner A, Mukainaka T, Nobukuni Y, Kuchide M, Konoshima T, et al. Cancer chemopreventive activity of *Achyranthes aspera* leaves on Epstein-Barr virus activation and two-stage mouse skin carcinogenesis. *Cancer Lett.* 2002;177:1–5. [Pub Med] [Google Scholar]
- [15] Draelos ZD. The ability of onion extract gel to improve the cosmetic appearance of postsurgical scars. *J Cosmet Dermatol.* 2008;7:101–4. [Pub Med] [Google Scholar]
- [16] Shams-Ghahfarokhi M, Shokoohamiri MR, Amirrajab N, Moghadasi B, Ghajari A, Zeini F, et al. *In vitro* antifungal activities of *Allium cepa*, *Allium sativum* and ketoconazole against some pathogenic yeasts and dermatophytes. *Fitoterapia.* 2006;77:321–3. [Pub Med] [Google Scholar]
- [17] Das I, Saha T. Effect of garlic on lipid peroxidation and antioxidation enzymes in DMBA-induced Skin carcinoma. *Nutrition.* 2009;25:459–71. [Pub Med] [Google Scholar]
- [18] Kim J, Lee Is, Park S, Choue R. Effects of *Scutellariae radix* and *Aloe vera* gel extracts on immunoglobulin E and cytokine levels in atopic dermatitis NC/Nga mice. *J Ethnopharmacol.* 2010;132:529–32. [Pub Med] [Google Scholar]
- [19] Syed TA, Ahmad SA, Holt AH, Ahmad SA, Ahmad SH, Afzal M. Management of psoriasis with *Aloe vera* extract in a

- hydrophilic cream: A placebo-controlled, double-blind study. *Trop Med Int Health*. 1996;1:505–9. [Pub Med] [Google Scholar]
- [20] Kaufman T, Kalderon N, Ullmann Y, Berger J. *Aloe vera* gel hindered wound healing of experimental second-degree burns: A quantitative controlled study. *J Burn Care Rehabil*. 1988;9:156–9. [Pub Med] [Google Scholar]
- [21] Miller MB, Koltai PJ. Treatment of experimental frostbite with pentoxifylline and *aloe vera* cream. *Arch Otolaryngol Head Neck Surg*. 1995;121:678–80. [Pub Med] [Google Scholar]
- [22] Olsen DL, Raub W, Jr, Bradley C, Johnson M, Macias JL, Love V, et al. The effect of *aloe vera* gel/mild soap versus mild soap alone in preventing skin reactions in patients undergoing radiation therapy. *Oncol Nurs Forum*. 2001;28:543–7. [Pub Med] [Google Scholar]
- [23] Joshi AR, Joshi K. Ethnomedicinal plants used against skin diseases in some villages of kali Gandaki Bagmati and Tadi Likhu watersheds of Nepal. *Ethnobotanical Leaflet*. 2007;11:235–46. [Google Scholar]
- [24] Arora N, Bansal MP, Koul A. *Azadirachta indica* exerts chemopreventive action against murine skin cancer: Studies on histopathological, ultrastructural changes and modulation of NF-kappaB, AP-1, and STAT1. *Oncol Res*. 2011;19:179–91. [Pub Med] [Google Scholar]
- [25] Arora N, Bansal MP, Koul A. *Azadirachta indica* acts as a pro-oxidant and modulates cell cycle associated proteins during DMBA/TPA induced skin carcinogenesis in mice. *Cell Biochem Funct*. 2013;31:385–94. [Pub Med] [Google Scholar]
- [26] Rasheed A, Shama SN, Joy JM, Reddy BS, Roja C. Formulation and evaluation of herbal anti-acne moisturizer. *Pak J Pharm Sci*. 2012;25:867–70. [Pub Med] [Google Scholar]
- [27] Kapadia GJ, Tokuda H, Konoshima T, Nishino H. Chemoprevention of lung and skin cancer by *Beta vulgaris* (beet) root extract. *Cancer Lett*. 1996;100:211–4. [Pub Med] [Google Scholar]
- [28] Isbir T, Yaylim I, Aydin M, Oztürk O, Koyuncu H, Zeybek U, et al. The effects of *Brassica oleraceae* var capitata on epidermal glutathione and lipid peroxides in DMBA-initiated-TPA-promoted mice. *Anticancer Res*. 2000;20:219–24. [Pub Med] [Google Scholar]
- [29] Fonseca YM, Catini CD, Vicentini FT, Nomizo A, Gerlach RF, Fonseca MJ. Protective effect of *Calendula officinalis* extract against UVB-induced oxidative stress in skin: Evaluation of reduced glutathione levels and matrix metalloproteinase secretion. *J Ethnopharmacol*. 2010;127:596–601. [Pub Med] [Google Scholar]
- [30] Duran V, Matic M, Jovanović M, Mimica N, Gajinov Z, Poljacki M, et al. Results of the clinical examination of an ointment with marigold (*Calendula officinalis*) extract in the treatment of venous leg ulcers. *Int J Tissue React*. 2005;27:101–6. [Pub Med] [Google Scholar]
- [31] Fuchs SM, Schliemann-Willers S, Fischer TW, Elsner P. Protective effects of different marigold (*Calendula officinalis* L.) and rosemary cream preparations against sodium-lauryl-sulfate-induced irritant contact dermatitis. *Skin Pharmacol Physiol*. 2005;18:195–200. [Pub Med] [Google Scholar]
- [32] Renu S. Treatment of skin diseases through medicinal plants in different regions of the world. *Int J Compr Pharm*. 2010;4:1–4. [Google Scholar]
- [33] Das I, Das S, Saha T. Saffron suppresses oxidative stress in DMBA-induced skin carcinoma: A histopathological study. *Acta Histochem*. 2010;112:317–27. [Pub Med] [Google Scholar]
- [34] Brown AC, Hairfield M, Richards DG, McMillin DL, Mein EA, Nelson CD. Medical nutrition therapy as a potential complementary treatment for psoriasis – Five case reports. *Altern Med Rev*. 2004;9:297–307. [Pub Med] [Google Scholar]
- [35] Limtrakul P, Lipigorngoson S, Namwong O, Apisariyakul A, Dunn FW. Inhibitory effect of dietary curcumin on skin carcinogenesis in mice. *Cancer Lett*. 1997;116:197–203. [Pub Med] [Google Scholar]
- [36] Zeinab RA, Mroueh M, Diab-Assaf M, Jurjus A, Wex B, Sakr A, et al. Chemopreventive effects of wild carrot oil against 7, 12-dimethyl benz(a)anthracene-induced squamous cell carcinoma in mice. *Pharm*



- Biol. 2011;49:955–61. [Pub Med] [Google Scholar]
- [37] Morsy TA, Morsy GH, Sanad EM. *Eucalyptus globulus* (camphor oil) in the treatment of human demodicidosis. J Egypt Soc Parasitol. 2002;32:797–803. [Pub Med] [Google Scholar]
- [38] Morsy TA, Rahem MA, el-Sharkawy EM, Shatat MA. *Eucalyptus globulus* (camphor oil) against the zoonotic scabies, *Sarcoptes scabiei*. J Egypt Soc Parasitol. 2003;33:47–53. [Pub Med] [Google Scholar]
- [39] Kingston C, Jeeva S, Jeeva GM, Kiruba S, Mishra BP, Kannan D. Indigenous knowledge of using medicinal plants in treating skin diseases in Kanyakumri district, Southern India. Indian J Tradit Knowl. 2009;8:196–200. [Google Scholar]
- [40] Yucel I, Guzin G. Topical henna for capecitabine induced hand-foot syndrome. Invest New Drugs. 2008;26:189–92. [Pub Med] [Google Scholar]
- [41] Ojewole JA. Antiinflammatory, analgesic and hypoglycemic effects of *Mangifera indica* Linn. (*Anacardiaceae*) stem-bark aqueous extract. Methods Find Exp Clin Pharmacol. 2005;27:547–54. [Pub Med] [Google Scholar]

