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Review on: Some Herbs Used in Skin disorder

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Abstract

Skin diseases are a prevalent and pervasive health problem that affect people of every age, out of infants to senior citizens and can be damaging in several way. Good skin essential to a well-being. Skin conditions like cellulitis, herpes and cancer can cause harm to the skin in a lot of people. These illnesses are commonly processed utilizing specific wild plant parts. Since the dawn of humankind, plants have been used. Natural medicine is said to be affordable and secure. Additionally, it works well as a raw material to create innovative synthetic agents. A summary of the latest advancements in technology within this domain during the previous Seventeen years is given, along with a review of various plants used to treat skin conditions.

Keywords - Natural Medicine, Skin Conditions, Novel synthetic agents and skin.

INTRODUCTION

The human skin, which covers the body externally, is biggest body organ. Additionally, it functions as the defence initial line. Skin is composed of a wide variety of specialised cells and structures. Its 3 primary layers are called the epidermis, dermis and hypodermis. The functions of skin as a whole are influenced differently by each layer. Based on the body portion, different body parts have different thicknesses of the epidermis, the outermost layer of skin. Eyelids (0.05 mm) have the thinnest layer, while the palms, soles (1.5) have thickest. Dermal thickness is also influenced by skin location. Both the eyelid and the rear of the body have dimensions of 0.3 mm and 3.0 mm, respectively. It joins the dermis. The dermis and the hypodermis or subcutaneous connective tissue, are joined. Larger blood arteries are found in the subcutaneous tissue, which is a layer of connective tissue and fat and nerves. This layer essential for controlling interior body temperature as well as skin. The thickness of this stratum differs between individuals across different bodily regions. The three primary skin-like projections are sweat glands, sebaceous glands, and hair follicles.

Below the skin, it keeps internal organs, ligaments, muscles, and bones safe. Hairy, glabrous skin are 2 main categories of skin.[1] Nonetheless, the skin may appear pale, dry sensitive, sagging, or fatigued. Dry skin is a typical symptom of deficiencies in important minerals including C and E, the B complex vitamins and beta-carotene. The most prevalent type of infection that affects people of all ages is skin disease. Because of their unsightliness and accompanying difficulties, skin disorders are among the most difficult conditions to adjust to, particularly when they affect an area of the body like the face that is challenging to hide, even with makeup. The majority of skin infection treatments take a while to start working. If the condition does not improve with therapy for skin disorders, the issue becomes more concerning.

Although precise statistics regarding the prevalence of skin illnesses in this nation are lacking, it is generally believed that 10– 20% of patients seeking medical attention have skin diseases. All over the world, skin conditions are common. Because skin opportunistic infections are linked to HIV/AIDS, managing skin diseases is becoming more important. Estimates indicate 92 percent of HIV cases - positive people has cutaneous and issues with the mucosa [2]. It is believed that the largest organ in the body is the skin. The skins many layers shield the body from pollutants in the environment and pathogens. Skin serves a variety of functions, such as insulation and temperature regulation. Healthy skin is shielded and covered in a coating known as the "acid mantle.". Numerous issues can arise with the skin. Itching, chapping, scaling, spots, fissures, oiliness, dryness, pimples and rash are signs of unhealthy skin. There are several potential causes, including as air pollution, dehydration, sun damage, irritable cosmetics, excessive copper levels, stress, allergies, overindulgence in caffeine, poor digestion, constipation, poor circulation and drug or alcohol misuse [3]. One of the world's richest traditions of plant medicine is situated in India the 25000^{+} powerful plant-based medicines use traditional Indian medicines are known the country's rural tribes. Medicinal herbs are used for promotional, preventative and therapeutic purposes in the traditional medicine system that is followed by over 1.5 million people. An estimated 7800 medical medicine production facilities in India are thought to use roughly 2000 tonnes of herbs a year [4].

Structure of Skin: The skin has a surface area of around 2 m^2 and makes up approximately 15% of the overall weight of an adult. With an adult weighing 70 kg, the human body's largest organ is the skin. weighing roughly 13 kg. The three primary zones of skin are the Follow:

Dermis.

Subcutaneous.

Epidermis.

Skin conditions can impact any part of the skin.[5]

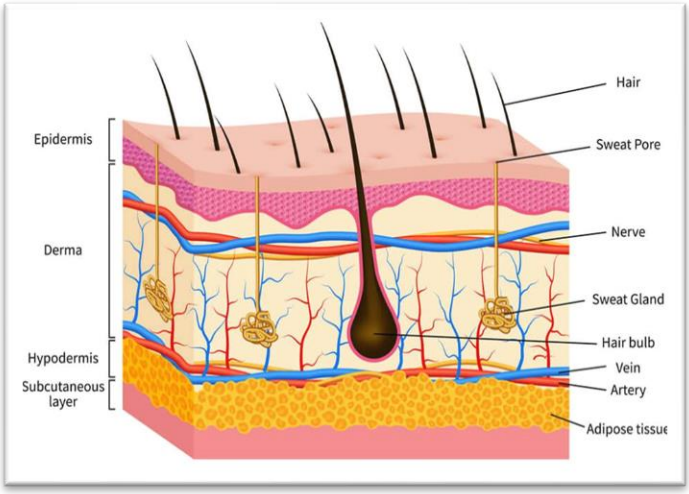

Figure 1*: *Structure of Skin

In addition to acting as a physical barrier against the outside world, skin's water- impermeable stratum corneum also aids in preventing water loss. Additionally, the stratum corneum contributes to the prevention of infiltration of allergens and irritants that can result in dermatitis and other conditions that cause skin inflammation.

Both innate and adaptive immunity are aided by skin. Defensins and cathelicidins, two examples of endogenous anti-microbial peptides generated from keratinocytes, exhibit potency against a range of bacteria, viruses, and fungi [6].

Common Skin Infection

Bacterial infection

Most impoverished nations have high rates of pyoderma and bacterial skin diseases. These diseases typically start off either acute infections of the skin known as impetigo, as secondary illnesses from bug bites or other lesions like scabies. Staphylococcus aureus or Group A streptococci are the most common bacterial culprits. Infections with bacteria are frequent in populations. Studies reveal that streptococci from Group A are responsible for significant evidence exists. This is uncommon in comparable illnesses where S. aureus predominates in temperate areas. The choice of treatment choices may be affected by this discovery. Though heat and humidity are linked to a higher incidence of bacterial skin infections, the reasons cause of skin infections. behind this finding are unclear. S. Moreover, folliculitis, infections, and abscesses are caused by aureus in the hair follicles, in addition to these surface infections. In underdeveloped nations, cutaneous diphtheria, anthrax and necrotising Vibrio vulnificus infections are less common some discomfort and irritation are brought on by bacterial infections. Ecthyma is the term for a necrotic ulcer that develops when an infection pierces deeply through the epidermis. However, as previously mentioned in respect to scabies, some data points to the possibility that streptococcal infection could result in extra long-term harm through the development of chronic proteinuria [7]

Figure 2*: *Bacterial Infection

Viral Infection

The emergence of these occurs as soon as a virus enters the stratum corneum and aminates dermal layers. Sheen and warts are few instances of skin diseases caused by viruses. Certain viral diseases of the system, such as chicken pox, measles, can cause skin infections. Viral diseases cannot be treated with antibiotics. [8].

Figure 3*: *Viral Infection

Fungal Infection

On the skin's surface, there will always be benign fungus. Infection results from these germs penetrating the body. Among the surface-level illnesses commonly affect skin, hair, and nails are ringworm, athlete's foot, and 1ock itch disorders. Nonetheless, fungus might grow far into the body and cause illnesses that are more severe. in persons with compromised immune systems or long-term antibiotic users' length of time. [9]

Figure 4*: *Fungal Infection

Pigmentation Disease

The quantity of melanin the body produces or epidermis pigmentation, is what gives skin its colour. In the skin's epidermal layer, melanocytes synthesise the 2 main types of melanin: pheomelanin & eumelanin. Skin tones that lighter is created by pheomelanin, while eumelanin produces darker skin tones. [10,11] eumelanin, a dark brown colouring that takes up the sun's UV rays to protect skin that has been sunburnt. Lighter skin tones are linked to lower quantities of eumelanin, whereas dark tones are linked to higher stages. One of extra advantages of eumelanin is its potential as a skin cancer preventive. Studies showed that those with greater levels of eumelanin were Compared to persons with lower levels of acquire skin cancer.

Moreover, eumelanin contributes to temperature regulation through collecting solar radiation and maintaining body temperature [12,13] a pigment with a softer yellow-red colour is called higher quantities of pheomelanin cause lighter skin tones and increase a person's vulnerability to sunburn and skin damage. However, phenol melanin does possess specific profits. It aids in regulating body temperature. and keeps, the body cool in hot conditions reflecting heat away from the body. Skin cancers, including melanoma, can also be with the aid of pheomelanin [14,15]. The genes locus 24 on chromosome 16 houses melanin-producing gene encoding the G-protein-coupled receptor 1 (MC1R) for melanocortin. The MC1R gene controls skin and hair colour, increases the risk of melanoma and regulates tanning (sensitive to light exposure and sunburn.[16] Within the same family as well as between racial groups, melanin synthesis rates differ. Melanocyte-stimulating hormone lipotropin, adrenocorticotropic hormone, and sun exposure are some of the hormones that produce this variance. Genetics also play a role. A skin tone that is greyish-brown is obtained by using more [17, 18]

Herbs Used in Skin Disease

Curcuma Longa

Biological Name **: Curcuma longa**
Fami1y : Zingiberaceae
Eng1ish Name : Turmeric
Hindi Name : Haldi
Chemical Constituents: Curcumin & essential Oil

In Africa and Southwest India, this is a commonly grown crop. In South and Asian countries, it is widely used as a spice due to its flavour and yellow colour. Although it dissolves readily in organic solvents like acids, alcohols, ketone bodies, and esters, mini curcumin remains predominantly insoluble in aqueous solutions. Curcumin also has the advantages of having few side effects, being safe at higher dosages, and not producing any toxicity.[19]

Conventional and contemporary applications

One of the main ingredients in cooking and with a long history in Ayurveda is turmeric. The powdered version can be taken as a dietary supplement in the form of capsules or with food. Turmeric reduces pain, oedema and inflammation related to arthritis, among other conditions because of its antibacterial and anti-inflammatory qualities [20] Additionally, age spots, pimple and acne are treated with it. Because of its skin-brightening properties, women use it frequently. Because curry imparts a strong colour, the rhizome is used either fresh or cooked, dried and crushed into a dark orange yellow Pulver. This a Pulver is widely used as a colouring and seasoning component in many Asian dishes, particularly curries, turmeric extract and curcumin [21]

Aloe Vera:

Biological Name : Aloe Vera
Family : Xanthorhoeaceae
English Name : Aloe barbadensis miller
Hindi Name : Barbados Aloe
Chemical Constituents: Glucomannans, Polymanose, and acemannan

Aloe vera is often utilised as a health beverage due to its beneficial properties in addressing skin conditions. Furthermore, it has been claimed to be useful in curing pigmentations creases and signs from stretching. Furthermore, by promoting local blood circulation and preventing cellular deterioration around a lesion, it seems to have the capacity to hasten the healing process. A study on mice that looked at the group that received only aloe vera gel (AV) at a dose of 0.8 mg/kg showed the greatest response to the Scutellariae radix and AV's effects on skin lesions mimicking Irregular atopic dermatitis showed improvement in dose because their Interleukin (1L)-5 and 1L-10 concentrations were lower. [22]

Camellia Sinensis:

Biological source : Camellia Sinensis
Family : Theaceae
English Name : Green Tea
Hindi Name : Chai Patti
Chemical Constituent: Flavanol, Flavandiols, Phenolic Acid

Figure 5*: *Green Tea

Because green tea has a high concentration of polyphenols, especially epigallocatechin gallate (EGCG), it has drawn attention for its possible advantages in controlling a variety of skin diseases.[23] Green tea contains polyphenolic chemicals called catechins, such as epigallocatechin gallate (EGCG), which have been shown to have exceptional anti-free radical properties5. When integrated into sunscreens, green tea extract functions as a natural buffer against oxidative stress generated by sun exposure. It lessens skin damage and early aging by assisting in the neutralization of free radicals produced by UV light. Furthermore, the anti-inflammatory properties of green tea support healthy skin overall. [24]

Benefits of Green Tea for Skin Disorders

Anti-inflammatory Activity

This is good news for people with psoriasis, eczema and acne.

Effects of Antioxidants

Green tea contains antioxidants that may help shield the skin from oxidative stress, thereby averting UV damage and early ageing.

Antimicrobial Activity

By preventing the growth of microorganisms that cause acne, green tea's antibacterial qualities may help manage acne.

Prevention of Skin Cancer

Research indicates that green tea's polyphenols may guard against skin cancer by regulating the proliferation and apoptosis of cancerous cells.

Wound Healing

Due to their antioxidant and anti-inflammatory qualities, green tea extracts may accelerate the healing of wounds. [25,26].

Azadirachta Indica:

Biological Name	: Azadirachta Indica
Family	: Meliaceae
English Name	: Margose
Hindi Name	: Neem
Chemical Constituents	: azadirchtin, other are nimbolinin, nimbin,salannin

Figure 6*: *Neem

Leaf extract is used as an external treatment for boils and blisters. In particular investigation, topical was administered to mice treatment of 500 nmol/100 of 7, 12 Dimethylbenzene[a] anthracene (DMBA) µl for two weeks, and then Their party administrator (TPA) (1.7 nmol/100 µl acetone,

double a week) as an inducer a development of skin tumours. Twenty weeks were allocated to the test group 300 mg/kg body weight leaves extract from Azadirachta indica in water orally 3 times week. The study's findings shown the chemo preventive potential of Azadieachta indica against the development of mice epidermis cancer. It was the purpose of this research is to ascertain how water-soluble Modulates cell cycle- associated proteins (AAILS) affected cell cycle- associated proteins in mice that were subjected to a two-stage origin of skin cancer process wherein DMBA was applied topically TPA and a carcinogen was applied repeatedly as a motivator to produce skin tumours. In contrast to the group under control, skin tumours derived from the group TPA/DMBA showed no changes in p53 expression, but heightened manifestation of p21, nuclear antigen of proliferating cells cyclin D1 1ndex (PCNA of proliferation. The study's findings indicated that AAILE acts in the tumors as a prooxidant, increasing their susceptibility to harm, which leads to its ability to prevent cancer. Moreover, proteins involved in the cell cycle be regulated by AAILE and may have an impact on how cells go through the cell cycle. Neem soap is useful for treating minor skin illnesses as well as preventing fungal infections. Neem, the main ingredient, contains anti-aging, antimicrobial, moisturizing and acne-reducing qualities. It also possesses anti-wrinkles and anti-acne effects. Neem, or Azadirachta indica, is used by native Indians in India. Neem is prized by Ayurvedic practitioners for its ability to support good skin. Rashes, itchy skin, psoriasis, scabies, dry skin and topical skin disorders are all relieved by neem. Neem is able to nourish and moisturize the skin. Neem is used to treat acne and different types of pigmentation.[27]

Annona Squamosa

Biological Name : Annona Squamesa
Family : Annonaceae
English Name : Custer Apple
Hindi Name : Sarifa
Chemical Constituents : Anonain, Carydine, Samoquasine, Motrilinr, Phenolic Acid.

Figure 7*: *Annona Squamosa

Leaf is applied topically to wounds and injuries. It works well to kill lice and has insecticidal properties. Bark is also a tonic and an astringent. It has also been traditionally used as an antifungal, antiplatelet aggregation, anti-spermatogenic, anti-implantation, antifertility, and oxytocic. antibacterial, pesticidal, diuretic, antiovulatory and abortifacient.[28]

Sandalwood

Mostly for skin care and cosmetic purposes. It is quite effective for rashes, flaws, and acne. Known as Chandan in Indian and Sanskrit, its cooling properties also help to eliminate tan and dullness.

It is stimulating, tonic, deodorizing, cooling, astringent and disinfecting. Since sandalwood is used as an antibacterial, skin softener and to promote peripheral blood circulation in the skin, it is good for

skin care. It is beneficial for cutaneous irritation as well. It relieves irritated and itchy skin and functions as an antibacterial for acne. Excellent as greasy skin astringent.

Inflammation, infection and hyperplasia are hallmarks of numerous skin disorders and illnesses. Long-term topical therapies solutions that are both safe and effective are required Traditional herbal remedies are being researched as possible novel active components in dermatology. These remedies are frequently complex mixtures with various modes of action that carry out their biological actions. The Santalum album tree yields sandalwood album oil often referred to as the essential oil referred to as EISO with biological action as an antiproliferative, anti-microbial and anti-inflammatory substance. Clinical investigations have demonstrated the potential of sandalwood album oil in managing several skin conditions such as acne, psoriasis, eczema, molluscum contagiosum and common warts.

***Figure 8*:** *Sandalwood*

Coconut Milk

Coconut milk operates as a sealant to hold in moisture and moisturize the skin, and it works wonderfully for hydrating dry skin when applied topically. It's the ideal moisturizer for your body, leaving your skin feeling smooth and textured while preserving the suppleness of your smoothest skin cells, which are easily absorbed.[29]

Figure 9: *Coconut Milk*

CONCLUSION

Using herbal remedies to treat skin conditions presents a viable substitute for traditional medical treatments. Since ancient times, people from many cultures have used herbal treatments, which are obtained from natural sources, because of their therapeutic benefits and few adverse effects. Recent research has demonstrated the effectiveness of some herbs in treating dermatitis, psoriasis, acne and eczema. Compounds with anti-inflammatory, antioxidant and antibacterial properties are frequently found in herbal medicines, which enhances their therapeutic effects. Plants such as calendula and aloe vera, for example, have shown to be quite beneficial in reducing inflammation and speeding up the healing process of wounds. Moreover, a lot of herbal remedies take a multifaceted approach, treating skin illnesses' underlying causes as well as their symptoms. But even with their promise, using herbal remedies needs to be done so carefully. To guarantee safety and efficacy, strict clinical trials, dosage standardization, and knowledge of potential interactions with prescription medications are necessary. Furthermore, different people may respond differently to herbal remedies, calling for customized therapeutic strategies. To sum up, although herbal medications offer a useful alternative for treating skin conditions, further investigation and cautious clinical evaluation are essential to fully realize their potential. Research on the pharmacological characteristics of herbal remedies may strengthen their position in dermatological care as demand for natural remedies rises, ultimately improving patient results and satisfaction.

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