A Herbal Approach towards Skin Diseases: An Updated Review

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ABSTRACT

Skin is both the biggest organ and the first line of defense of the human body, which covers the outside of the body. Worldwide, 34% of occupational disorders have been identified as skin diseases. The most prevalent type of illness that affects people of all ages is skin disease. Both developed and developing nations are significantly burdened by skin problems in terms of health. Skin disorders that damage the skin, such cancer, herpes, eczema, psoriasis, and cellulite, can strike a large number of people. These disorders are frequently treated using certain wild plants and their components. It has been shown time and time again that plants and other forms of traditional medicine are essential in the treatment of skin disorders. They have been used to treat skin diseases in many countries across the globe, where they play an important role in basic healthcare. Even though modern medicine has come a long way in recent decades, plants still play an important part in healthcare. Our most successful medicine source has historically been natural products. Most skin diseases are treated using a variety of herbal herbs. Natural medicine is believed to be cheap and secure. Some potent therapeutic herbs can totally cure or significantly lessen infections and dermatological conditions. The study's primary objective is to recommend treatments for human skin disorders, but it also seeks to highlight the need of doing in-depth research on medicinal plants in order to discover potential treatments. This review emphasized the function and value of specific medicinal herbs in treating various skin conditions.

Keywords: Traditionally, Ethno-Medicinal, Phytomedicines, Skin, Herbal, Dermarpphytosis.

INTRODUCTION

Traditional medicine has made use of various herbs for thousands of years. There has been a significant uptick in research into traditional Indian medicine and the medicinal plants that have long been used there. It's reasonable to assume that places where plant usage is still common have amassed a plethora of information on how to protect plants from different diseases. The World Health Organization (WHO) reports that owing to poverty and a lack of access to modern drugs, anywhere between 65% and 80% of the world's population in developing nations relies mostly on plants for basic healthcare.[1]

Since it is located in a veritable gold mine of well-known and historically applied knowledge of herbal medicine, India is appropriately referred to as the botanical garden of the globe. There are roughly 17,000 kinds of plants in India, 7,500 species of higher plants are thought to have medical potential, and between 7% and 13% are expected in other nations. Rural Indian populations are aware of around 25,000 efficient herbal remedies utilised in traditional medicine.[2]

Some areas of the scientific community have paid a lot of attention lately to the use of ethnobotanical data in studies on therapeutic plants. The rising expense of prescription pharmaceuticals for preserving one's health and wellbeing, as well as

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the bio-exploration of novel drugs derived from plants, have increased interest in medicinal plants. Historically, all medicines have their roots in plants, whether they are simple plant components or more complex raw extracts, mixtures, etc. Medications derived from plants offer a number of advantages over their synthetic counterparts, including lower side effects, more potent therapeutic effects, and more accessibility.\cite{3-4}

About 25 percent of all prescription pharmaceuticals globally, including 252 medicines considered basic and necessary by the WHO, are derived from plants. This trend began about 200 years ago. In the present day, many synthetic medications are created from natural precursors, and 11% of all pharmaceuticals are produced directly from plants. Indigenous people's usage of medicinal plants in ways that don't outpace the environment's ability to withstand them is seen as an essential component of the long-term preservation of plant biodiversity. Numerous herbal ingredients used in traditional medicine are widely accessible and significantly more affordable than modern medication in rural regions. The numerous plant components, such as the roots, leaves, shoots, and bark, that are utilised to prepare medications include these chemicals of plant origin.\cite{5-9}

Today's prescription medications are based on natural substances. Microorganisms are becoming resistant to synthetic antibiotics as a result of their excessive usage. The World Health Organization has issued a warning that common antibiotic-resistant bacteria might spell "the end of modern medicine as we know it." In light of the aforementioned factors and information, several researchers are looking into various plant sources to create all-natural medications that can counteract the negative effects of synthetic medications. Due to their low price and lack of side effects, medicinal plants are swiftly gaining in popularity throughout the country. It has been shown time and time again that plants and other forms of traditional medicine are essential in the treatment of skin disorders. They have been used to treat skin diseases in many countries, where they play an important role in basic healthcare. Additionally, it is common practice to treat dermatological disorders with medicinal herbs.\cite{10-12}

Herbs used for traditional medicine have been crucial in treating dermatological disorders. The treatment of skin conditions brought on by bacteria, fungus, and viruses involves the usage of hundreds of plants across the globe.\cite{13}

**Common Skin Problems:**

Infections of the skin are common and may cause significant discomfort or even death for people of any age, from infants to the elderly. There are more than a thousand different skin illnesses and conditions, but we'll just cover the nine most common ones here.\cite{14-15}

**Rashes**

A rash is a cluster of individual red, inflamed spots of skin. These may be brought on by structural issues, like clogged pores or dysfunctional sebaceous glands, as well as irritability, allergies, infection, and underlying illnesses. Rashes may include pityriasis rosea, eczema, urticaria, dermatitis, and others.

**Viral infections**

This happens when a virus attacks the skin below the stratum corneum. Warts, herpes zoster, and herpes simplex are all examples of viral skin infections. Measles and chickenpox are two instances of systemic viral infections that may manifest externally as skin symptoms. Antibiotics do not work in viral infections.

**Bacterial infections**

The two most common types of bacteria that cause these infections are streptococci and staphylococci. Bacteria may infect the epidermis, deeper skin layers, or hair follicles. If these illnesses are not properly treated, they might potentially disperse all
throughout the body. Lyme disease, impulsive folliculitis, and cellulite are just a few examples.

**Fungal infections**

Fungi that are not toxic are constantly present on the skin's surface. When these germs penetrate the body, infection results. Athlete's foot, ringworm, itching, and other superficial diseases like these can damage the skin, hair, and nails. Fungi, on the other hand, can spread deeply within the body and result in more severe sickness in persons with compromised immune systems or those who have taken antibiotics for a prolonged period of time.

**Dermatophytosis**

A dermatological condition with a zoonotic risk is dermatophytosis. There are three kinds of dermatophytes: geophiles, zoophiles, and anthropophiles, based on their principal dietary preferences. There are several terms for dermatophytosis, and *Microsporum, Trichophyton*, and *Epidermaphyton* species are the main culprits. The most frequent cause of dermatophytosis in both animals and people is *Microsporum canis (M.canis).*[16-18]

**Parasitic infections**

These types of infections occur after exposure to the parasites such as lice and scabies.

**Pigmentation disorders**

The quantity of melanin in the body is directly proportional to the amount of pigment in the skin. Hypopigmentation may be brought on by a deficiency of melanocytes, damaged cells, chemical exposure, or even illness. Skin inflammation, hormonal shifts, age, metabolic illnesses, and other factors may all contribute to hyperpigmentation, or an increase in pigmentation.

**Tumors and cancers**

These growths are the consequence of the skin cells starting to replicate more rapidly than normal. Not all skin growths are cancerous. There are benign tumors that won't spread. Many individuals are harmed each year by the majority of malignancies, including skin cancer. Sunlight exposure is to blame 90% of the time. Malignant melanoma, the worst form of skin cancer, squamous cell carcinoma, which may grow and spread, and basal cell carcinoma, which is the most curable, are the three major types of skin cancer. Protecting the skin from harmful UV radiation is one step in the prevention process.

**Trauma**

Skin damage brought on by a hit, a cut, or a burn is referred to as a trauma. When the skin’s surface is damaged, the body is more prone to illness and infection.

**Other conditions**

Skin conditions such as wrinkles, rosacea, spider veins, and varicose veins are among those that cannot be categorically classified. Wrinkles are caused by the dermis's breakdown of collagen and elastin, which causes the skin to droop. Chronic rosacea causes the skin of the face to become red, erupt in lesions and pimples, and, less commonly, enlarge the nose.

**Temporary skin disorders**[19]

**Contact dermatitis**

It is a more widespread occupational illness. Contact with chemicals or other irritants often causes the disease. These drugs may set off a response that results in skin that is itchy, red, and swollen. Although contact dermatitis often doesn't cause major complications, it may itch. The usual treatments include using topical creams and avoiding irritants.

**Keratosis pilaris**

Little bumps appear on the skin as a consequence of keratosis pilaris, a moderate skin condition. Usually, these lumps appear on the upper arms, thighs, or cheeks. Usually white or red, they don't hurt or itch. Despite the fact that medicated lotions
may improve the appearance of the skin, treatment is not necessary.

**Permanent skin disorders** [19]

- While some chronic skin problems develop unexpectedly later in life, others are present from birth. Sometimes the root cause of certain illnesses is unknown. Effective therapies for many chronic skin conditions enable prolonged remissions. They are, however, incurable, and the signs and symptoms may return at any time. Chronic skin problems include, for example:
  - Psoriasis (which produces scaly, itchy, and dry patches)
  - Rosacea (which creates tiny, red, pustilled pimples on the face)
  - Vitiligo, a condition that causes big, erratic patches of skin

**Skin disorders in children** [19]

Children are just as susceptible to developing a variety of skin conditions as adults are. Babies and young children are particularly vulnerable to diaper-related skin problems. Kids spend more time in close quarters with other kids and their germs, which increases their risk of developing skin conditions that are uncommon in adults. Although many juvenile skin conditions improve with maturity, children might occasionally be born with lifelong skin conditions. Most of the time, doctors can treat children's skin conditions using topical creams, medicinal lotions, or specially formulated drugs.

Eczema, diaper rash, seborrheic dermatitis, chicken pox, measles, warts, acne, hives, ringworm, rashes from bacterial or fungal infections, and allergy rashes are among the most common skin problems in kids.

** Symptoms of skin disorders** [19]

There are many different symptoms associated with skin disorders. Skin disorders are not necessarily the cause of symptoms on the skin that arise from everyday issues. Blisters from new shoes or scrapes from tight trousers are two examples of these symptoms. However, skin issues without a clear cause may be a sign of a serious skin disorder that has to be treated.

Common symptoms of a skin disorder include fleshy bumps, discolored patches of skin, warts or other skin growths, changes in the color or size of the mole, loss of skin pigment, and excessive redness.

**Causes of skin disorders** [19]

- Bacteria trapped in skin voids and hair follicles, as well as parasites, fungi, and microorganisms that live on skin, are common recognized causes of skin problems.
- Viruses; weakened immune systems; contact with irritants, allergens, or the diseased skin of another person; and genetic predispositions all play a role.
- Disorders of the thyroid, the kidneys, and other organs and systems

The development of specific skin disorders can also be influenced by a variety of health issues and lifestyle choices. Unknown causes exist for several skin issues.

**Inflammatory bowel disease**

The phrase "inflammatory bowel disease" refers to a set of intestinal illnesses that cause the digestive system to become chronically inflamed. Skin issues are frequently brought on by bowel disorders.

**Diabetes**

Diabetes frequently causes skin issues in its victims at some time. Only those with diabetes are susceptible to certain of these skin problems. Diabetics are more likely to have complications from other diseases because of their heightened susceptibility to infection and circulation problems caused by the illness. Infections of the skin caused by fungi (such as athlete’s foot, ringworm, and yeast) and bacteria (such as boils, styes, and
folliculitis) are common among people with diabetes. Diabetic foot ulcers are only one of several foot complications.

**Pregnancy**

Significant hormonal changes brought on by pregnancy might result in skin issues. Skin conditions that already existed might alter or get worse during pregnancy. After the baby is born, most skin issues that develop during pregnancy go away. Some pregnant women need medical treatment. Pregnancy may cause a wide variety of skin diseases, including stretch marks, melasma, pemphigoid, itchy papules and urticaria plaques, and eczema.

**Stress**

Hormonal imbalances brought on by stress can either start or aggravate skin diseases. Stress has been associated to a variety of skin diseases, including eczema, psoriasis, acne, rosacea, ichthyosis, vitiligo, urticaria, and alopecia areata.

**Sun**

Several distinct skin conditions can be triggered by the sun. While some are uncommon or life-threatening, others are innocuous. Knowing whether exposure to sunlight improves or worsens a skin condition is crucial for effective treatment. Exposure to sunlight may cause or exacerbate a wide variety of skin problems, such as moles, wrinkles, sunburn, actinic keratosis, skin cancer (including basal cell carcinoma, squamous cell carcinoma, and melanoma), and photosensitivity.

**Treating skin disorders**

- These days, a lot of skin problems may be fixed. Skin disorders are often treated with either antihistamines or topical medications like lotions and ointments.
- Antibiotics
- Injections of vitamins or steroids
- Laser Therapy
- Targeted Medications
- Traditional Indian medicine and other forms of complementary treatment.

In the treatment of dermatological disorders, traditional medicinal plants have been quite helpful. The treatment of skin conditions brought on by bacteria, fungus, and viruses involves the use of hundreds of medicinal plants across the globe.

**Traditional Medicine from Herbal Medicaments**

i) **Herbal teas** (Species): tea mixes and single teas are distinguished. Tea blends and spices are mixtures of entire or well chopped herbal remedies. The accuracy of the dose is rather low since they are only relevant to medications with a broad therapeutic range. Teas that are utilised in the creation of decocta, infusa, or macerata. Teas that are ready-to-brew or instant are not technically teas. These goods have a distinct level of quality.

ii) **Tinctures** (Tinturae): Those are drug extracts. They are often produced using ethanol in various concentrations, such that 5 or 10 parts of extractive agents are used for every 1 part of the medicine. Ethyl ethers are permitted in pharmacopoeias as extraction agents and under other circumstances. The tinctures can alternatively be described as varying strengths of dry extract solutions in ethanol. The fluid extracts (also known as fluid extracts) are made in such a way with ethanol or with mixtures of ethanol and water that for a maximum of 1 part of the drug, 2 fluid parts Extracts are obtained. Many finished herbal medicines that are sold as solutions or drops represent tinctures in the indicated direction. Consequently, fluid extracts may be thought of as tinctures that are more intensely concentrated.

**Dry extracts** (extracta siccra): They are liquid extracts that are only intended to be used on the entire area that has to be dried. They are more precisely intended to be kept at a residual humidity level of around 2%. If necessary, the
dry extracts of the pharmacopoeia are stopped by mixing the recommended active substances with an inert auxiliary substance, such as lactose or dextrin. Dry extracts made from the medicinal herb plant that are used to make completed medications like confetti capsules or tablets.

**Herbal medicine For Treatment of Skin Diseases:**

The term "herbal medicine," sometimes known as "botanical medicine" or "phytomedicine," describes the use of any plant's seeds, berries, roots, leaves, bark, or flowers for therapeutic reasons. Herbal medicine has traditionally been used outside of the realm of conventional medicine, but this is changing as new studies and analyses show how effective it is at both treating and preventing disease. According to a recent estimate by the World Health Organisation, 80% of people worldwide rely on medicinal herbs for certain parts of their basic healthcare.[20]

New substances that might be helpful in the creation of chemotherapeutic drugs can be found in traditional medicine. The discovery of plants utilised in folk medicine is the first step towards achieving this aim. Therefore, the goal of antimicrobial research is to find and create novel antibacterial and antifungal agents. Herbal medications are frequently seen as safer than synthetic ones and as having fewer adverse effects.[21]

According to reports, medicinal plants are very helpful for wound treatment, improving wound healing rates with little to no pain, irritation, or scarring for the patient.[22-23]

**CONCLUSION**

People who have skin conditions not only have physical and mental health issues as a result of it, but they also spend a lot of money on their treatment when they reach a chronic stage. The majority of skin diseases may be effectively treated using many of the herbs that are available in the Indian area and elsewhere in the world. The most prevalent conditions that affect and have a significant impact on human physiology in daily life include acne, dermatitis, eczema, urticaria, pityriasis rosea, and psoriasis.

The herbal medications in this review have all demonstrated greater efficacy when used topically. The majority of plant species have long been utilised as antibacterial medicines to treat skin diseases. Several chemical entities that are responsible for antibacterial action against skin disorders have been successfully isolated. Medicinal herbs are known to have antibacterial qualities that are utilised to treat the majority of skin conditions. The finest source for a wide range of novel herbal medications is medicinal plants. This review aids scientists studying skin issues in identifying novel approaches or efficacy in plants that have been informed, as well as similar lead compounds in other plants that may represent a step ahead in the process of discovering new drugs.

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