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REVIEW ARTICLE OF HERBAL DRUGS USED IN SKIN DISORDER

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ABSTRACT

Skin diseases are numerous and a frequently occurring health problem affecting all ages from the neonates to the elderly and cause harm in number of ways. Maintaining healthy skin is important for a healthy body. Many people may develop skin diseases that affect the skin, including cancer, herpes and cellulitis. Some wild plants and their parts are frequently used to treat these diseases. The use of plants is as old as the mankind. Natural treatment is cheap and claimed to be safe. It is also suitable raw material for production of new synthetic agents. A review of some plants for the treatment of skin diseases is provided that summarizes the recent technical advancements that have taken place in this area during the past 17 years.

❖ **KEYWORDS:** Ethnomedicine, herbs, medicinal plants, skin diseases.

❖ INTRODUCTION

Herbal therapy for skin disorders has been used for thousands of years. 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 ethnobotanical remedies. Systems of herbal use developed regionally in Europe, the Middle East, Africa, India, China, Japan, Australia, and the Americas. Two well-known systems still in use are the Ayurvedic herbs in India and herb combinations developed as part of traditional Chinese medicine in China. In Europe and the United States, use of herbs declined as purified extracts and synthetic chemical drugs became available. In recent years, there has been a resurgence of the use of herbs due to the following reasons: the side effects of chemical drugs became

apparent, there was a call to return to nature, natural remedies became a part of the green revolution, and there was a return to organic produce.

Herbal remedies, including those for skin disorders, are currently gaining popularity among patients and to a lesser degree among physicians. In Asia, especially in China and India, herbal treatments that have been used for centuries are now being studied scientifically. In Germany, the regulatory authority Commission E oversees herbal preparations and their recommended uses Currently, the United States does not regulate herbal products except as dietary supplements. There is no standardization of active ingredients, purity, or concentration. There are also no regulations governing which herbs can be marketed for specific indications

❖ Anatomy of skin

The skin is the largest organ of the body, with a total area of about 20 square feet. The skin protects us from microbes and the elements, helps regulate body temperature, and permits the sensations of touch, heat, and cold.

❖ Skin has three layers

- The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone.
- The dermis, beneath the epidermis, contains tough connective tissue, hair follicles, and sweat glands.
- The deeper subcutaneous tissue (hypodermis) is made of fat and connective tissue.

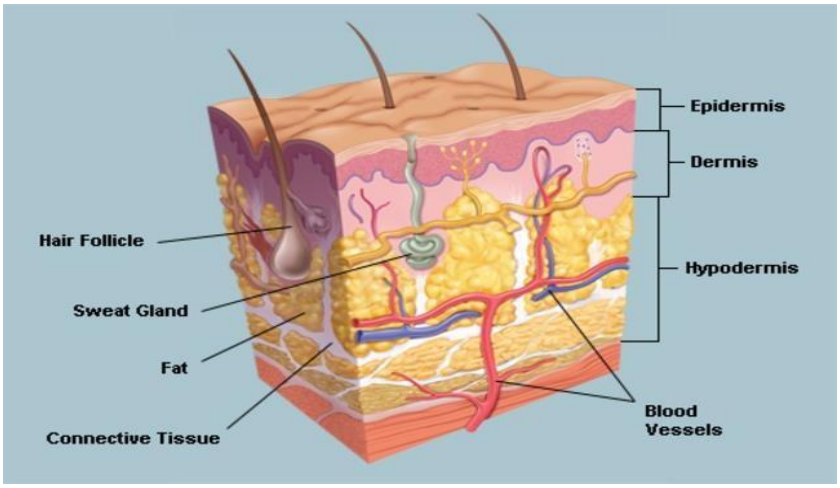

Fig. 1: Anatomy of skin.

Epidermis

Your skin's top layer, the epidermis, is super thin on some parts of your body (your eyelids) and thicker on others (the bottoms of your feet). The epidermis is the layer of skin in charge of:

- **Making new skin cells:** This happens at the bottom of the epidermis. The skin cells travel up to the top layer and flake off, about a month after they form.
- **Giving skin its color:** The epidermis makes melanin, which is what gives your skin its color (find out more about this in).
- **Protecting your body:** The epidermis has special cells that are part of your immune system and help you stay healthy.

Dermis

A lot happens in the next layer, the dermis. The jobs of the dermis include

- **Making sweat:** There are little pockets called sweat glands in the dermis. They make sweat, which goes through little tubes and comes out of holes called pores. Sweating keeps you cool and helps you get rid of bad stuff your body doesn't need.
- **Helping you feel things:** Nerve endings in the dermis help you feel things. They send signals to your brain, so you know how something feels if it hurts (meaning you should stop touching it), is itchy or feels nice when you touch it.
- **Growing hair:** The dermis is where you'll find the root of each tiny little hair on your skin. Each root attaches to a tiny little muscle that tightens and gives you goose bumps when you are cold or are scared.
- **Making oil:** Another type of little pocket, or gland, in your skin makes oil. The oil keeps your skin soft, smooth and waterproof. Sometimes the glands make too much oil and give you pimples. (See Acne: Pimples and Zits.
- **Bringing blood to your skin:** Blood feeds your skin and takes away bad stuff through little tubes called blood vessels.

❖ **Hypodermis**

The bottom layer of skin is the subcutaneous fat layer. This layer plays an important role in your body by

- **Attaching the dermis to your muscles and bones:** This layer has a special connecting tissue that attaches the dermis to your muscles and bones.

- **Helping the blood vessels and nerve cells:** Blood vessels and nerve cells that start in the dermis get bigger and go to the rest of your body from here.
- **Controlling your body temperature:** The subcutaneous fat is the layer that helps keep your body from getting too warm or too cold.
- **Storing your fat:** This fat pads your muscles and bones and protects them from bumps and falls.

❖ **Skin types**

While all human skin has basically the same structure, slight biological differences can make a big deal to the proper care and keeping of your skin. People can have more or less active sebaceous glands, more or less active sweat glands, and may store more or less water in their skin.

Here are summaries of some common human skin types, and how to best care for them

Oily skin

People with oily skin may have large pores, a shiny complexion, and blackheads or pimples. This is because the sebaceous glands in their dermis make a lot of oil, which can build up in pores, widening them and causing irritation.

The oiliness of skin can be increased by factors including

✓ Stress
✓ Hormones
✓ Heat and humidity

Paradoxically, washing often is *not* good for oily skin. Many people are tempted to try to wash the oil off – but this can result in the skin feeling dry, which will actually stimulate it to produce more oil!

It's recommended that people with oily skin wash it no more than twice a day and avoid scrubbing when they wash. This will leave the skin's natural oil intact so that less new oil will be produced.

Popping or picking at pimples and blackheads is also a bad idea. This can cause injury to the skin, which can increase the inflammation of the blemish and cause it to take longer to heal! When picking out cosmetic products, look for those with a label that says "noncomedogenic." That means it won't clog pores!

Combination skin

Combination skin is skin that is oily in some areas, but may be dry in others. In people with combination skin, the chin, nose, and forehead are the most commonly oily areas. Other areas such as the cheeks may be dry.

People with combination skin often have large pores, blackheads, and shiny skin due to the production of a lot of oil by the glands in your dermis. This oil can accumulate in pores and cause blackheads and blemishes.

The same tips for caring for oily skin can be used on the oily areas of combination skin.

"Normal Skin"

Normal skin is skin that has a medium level of oil and water, leaving it protected from the elements, but not shiny or oily. This skin type usually has small pores and few blemishes, since the glands which produce oils are not highly active.

Dry skin

People with dry skin may have a dull, rough complexion and may show more wrinkles and lines than other skin types. Irritated red patches may appear, and pores may be completely invisible.

This is because dry skin has less active oil glands, leaving the skin without the sheen of protection from the environment. As a result the skin can loose moisture quickly and become red, irritated, or flaky.

People who live in dry areas such as deserts are more likely to show signs of dry skin, because their skin loses more moisture than those who live in humid areas.

Dry skin may be caused or made worse by

- Indoor heating
- Certain medications
- Hot baths and showers
- Over-washing, or washing with harsh soaps and cleansers
- Exposure to weather such as sun, wind, cold, and dry heat

◆ **The following measures can help**

- Use a humidifier to counter the effects of indoor heating
- Talk to your doctor if dry skin began after you started a new medications
- Take fewer, shorter baths and showers – no more than once a day
- Avoid scrubbing, and use gentle soaps and cleansers
- Lessen exposure to harsh weather using clothing, sunscreen, or other measures
- Use a moisturizer immediately after bathing to augment your skin's natural protection.

Sensitive Skin

Sensitive skin may show redness, itching, burning, and dryness.

Sensitive skin may become irritated in response to certain skin care products. If you suspect you may have sensitive skin, it's helpful to keep track of what products you have used recently.

Discontinue the use of any new products you started using before irritation occurred, and try to determine if you can identify an ingredient in the new product that might have caused the irritation. With luck, you can avoid other products that use that ingredient.

Skin tests

- **Skin biopsy:** A piece of skin is removed and examined under a microscope to identify a skin condition.
- **Skin testing (allergy testing):** Extracts of common substances (such as pollen) are applied to the skin, and any allergic reactions are observed.
- **Tuberculosis skin test (purified protein derivative or PPD):** Proteins from the tuberculosis (TB) bacteria are injected under the skin. In someone who's had TB, the skin becomes firm.

❖ **Functions of the skin**

The main functions of the skin include

1. **Protection** of the human body
2. **Sensation** i.e. transmitting to the brain information about surroundings
3. **Temperature regulation**
4. **Immunity** i.e. the role of the skin within the immune system
5. **Enables movement and growth** without injury

6. **Excretion** from the body of certain types of waste materials
7. **Endocrine function** e.g. re. Vitamin D.

❖ **Skin conditions**

A. Atopic eczema

- Atopic eczema, also known as atopic dermatitis, is the most common form of eczema and makes your skin itchy, red, dry and cracked.
- It's a long-term condition in most people, although it can improve over time, especially in children, who often grow out of it.

It can affect any part of the body, but most commonly affects

- ✓ The backs or fronts of the knees
- ✓ Outside or inside the elbows
- ✓ Around the neck, hands, cheeks or scalp
- ✓ Treatment, which includes using moisturisers and steroid creams, can help relieve symptoms.

Fig. 2: Atopic eczema.

B. Cold sores

- Cold sores are small blisters that develop on the lips or around the mouth, caused by the herpes simplex virus.
- They often start with a tingling, itching or burning sensation around your mouth.
- Small fluid-filled sores then appear, usually on the edges of your lower lip.
- Cold sores usually clear up without treatment within 7 to 10 days, but antiviral creams are available from pharmacies.

- These can help ease your symptoms and speed up the healing time

Fig. 3: Cold sores.

C. Hives (urticaria)

- Urticaria, also known as hives, weals, welts or nettle rash, is a raised, itchy rash.
- It may appear on 1 part of the body or be spread across large areas.
- In many cases, you do not need any treatment because the rash gets better within a few days.
- If the itchiness is uncomfortable, antihistamines can help, which you can buy at a pharmacists.
- See a GP if your symptoms do not go away within 48 hours.

Fig. 4: Hives.

D. Impetigo

Impetigo is a very contagious skin infection that causes sores and blisters.

There are 2 types

- Non-bullous impetigo – typically affects the nose and mouth
- Bullous impetigo – typically affects the trunk
- It's more common in children, but can affect anyone.
- The infection is likely to clear up by itself within 3 weeks, but it's a good idea to see a GP for a diagnosis as the symptoms are similar to other, more serious conditions.
- A GP can also prescribe antibiotic cream or tablets to get rid of it quickly.

Fig. 5: Impetigo.

E. Itching

Itching can affect any area of the body. Mild, short-lived itching is common, but it can sometimes be severe and frustrating to live with.

There are things you can do that may help, including

- Patting or tapping the itchy area, rather than scratching
- Cooling the area with a cold compress, such as a damp flannel
- Bathing or showering in cool or lukewarm water
- Using unperfumed personal hygiene products
- Avoiding clothes that irritate your skin, such as wool or man-made fabrics
- Using a moisturiser if your skin is dry or flaky

  Antihistamine and steroid cream may help relieve itching caused by certain skin conditions.

Fig. 6: Itching.

F. Psoriasis

- Psoriasis typically causes flaky red patches of skin covered in silver scales.
- The patches usually appear on the elbows, knees and the lower back, and can be itchy or sore.
- For some people psoriasis is just a minor irritation, but for others it can have a major impact on their quality of life.
- People with psoriasis usually have periods when they have no or mild symptoms, followed by periods when symptoms are more severe.
- Most people are treated by a GP, but you may be referred to a skin specialist called a dermatologist if your psoriasis is severe.

Although there's no cure for psoriasis, treatments can improve your symptoms

They include

- Creams and ointments
- Treatment with light (phototherapy) medicines taken by mouth or injection

Fig. 7: Psoriasis.

G. Ringworm

- Ringworm is not a worm, but a contagious fungal infection that typically appears on the arms and legs, although it can appear almost anywhere on the body.
- It causes a red or silvery scaly rash in the shape of a ring.
- Anyone can get ringworm, but it's more common in children.
- You can treat ringworm with antifungal creams, powders or tablets, which are available over the counter from a pharmacy.
- You may need to see a GP if you're not sure it's ringworm, or if the infection does not clear up after using a pharmacy treatment for 2 weeks.

Fig. 8: Ringworm.

H. Scabies

- Scabies is a contagious skin condition caused by tiny mites that burrow into the skin.
- The main symptoms are intense itching that gets worse at night, and a rash of tiny red spots.
- See a GP if you think you have scabies. It's not usually serious, but treatment, normally a cream or lotion, is needed to kill the scabies mites.

Fig. 9: Scabies.

I. Vitiligo

- Vitiligo causes pale white patches on the skin that vary in size and can occur anywhere.
- They're more noticeable on areas that are exposed to sunlight, such as the face and hands, and on dark or tanned skin.
- Vitiligo on the scalp can make your hair go white.
- Vitiligo is a long-term condition. It's not contagious. You should see a GP to if you suspect vitiligo.
- Treatment aims to improve your skin's appearance, and includes:
- disguising the patches with coloured creams
- steroid creams
- treatment with light (phototherapy)

Fig. 10: Vitiligo.

J. Acne (Acne vulgaris)

- Acne is the most common skin disorder in the United States. We usually associate the problem of acne with teenagers; however, more and more adults suffer from acne as well. A lot of people believe that acne will come and go and that there's no need to stress over it. While this might be true for a small percentage of people, it usually isn't for the majority.
- Acne is usually located on the face, chest, neck, upper back, and shoulders. Breakouts can appear in the form of pimples, whiteheads, blackheads, or painful nodules and cysts. If left untreated, or treated poorly, acne can leave scars or dark spots on the skin.
- Both teenagers and adults with acne can benefit from medical dermatology. Even if we think that our acne isn't serious, there's no need to put up with it. With some professional help, we can have clear skin much faster.

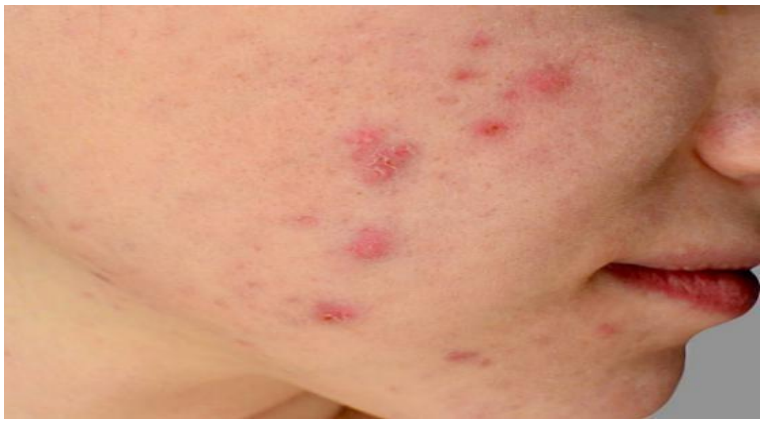

Fig. 11: Acne

❖ **Conventional treatment of skin disease**

The common medications for topical use include

- **Antibacterials:** These medicines, like bactroban or cleocin, are often used to treat or prevent infection. Ex. clindamycin.
- **Anthralin (drithocreme, micanol and others):** Although not often used, these help to reduce inflammation and can help treat psoriasis
- **Antifungal agents:** Lamisil, lotrimin and nizoral are few examples of common topical antifungal drugs used to treat skin conditions such as ringworm and athlete's foot Ex.Intracanazole
- **Benzoyl peroxide:** Creams and other products containing benzoyl peroxide are used to treat acne
- **Coal tar:** This topical treatment is available with and without a prescription, in strengths ranging from 0.5% to 5%. Coal tar is used to treat conditions including seborrheic dermatitis (usually in shampoos) or psoriasis. Currently, coal tar is seldom used because it can be slow acting and can cause severe staining of personal clothing and bedding
- **Corticosteroids:** These are used to treat skin conditions including eczema and come in many forms including foams, lotions, ointments and creams Ex. Corticosteroids
- **Retinoids:** These medications (such as retin-A and tazorac) are gels or creams derived from vitamin A and are used to treat conditions including acne Ex. Retinol,
- **Salicylic acid:** This medication is available in the form of lotions, gels, soaps, shampoos and patches. It should be used sparingly as putting too much on one's body at once can cause toxicity. Salicylic acid is the active ingredient in many skin care products for the treatment of acne and warts.

Oral treatments for skin conditions include

- **Antibiotics:** Oral antibiotics like erythromycin, tetracycline and dicloxacillin are used to treat many skin conditionsEx. Amoxicillin.
- **Antifungal agents:** Common oral antifungal drugs such as ketoconaole and diflucan can be used to treat more severe fungal infections Ex. Ketoconazole
- **Antiviral agents:** Common antiviral agents include valtrex, acyclovir and famavir. Antiviral treatments are used for skin conditions including those related to herpes Ex.Vidarabine
- **Corticosteroids:** These medications, including prednisone can be helpful in treating skin conditions linked to autoimmune diseases including vasculitis and inflammatory diseases such as eczema and psoriasis. Dermatologists prefer topical steroids to avoid side-effects; however, short-term use of prednisone is sometimes. Ex. Prednosone
- **Immunosuppressants:** Immunosuppressants, such as azathioprine and methotrexate, can be used to treat conditions including severe cases of psoriasis and eczema. Ex. Azathioprine.

❖ **Herbal drugs**

What are herbal drugs?

Herbal drugs are made from the roots, stems, leaves, bark, fruit, seeds, or flowers of various plants known or believed to have medicinal properties. Many conventional drugs are also derived from plants. In fact, the word "drug" comes from the French word *drogue*, meaning "dried herb."

Herbal and conventional drugs differ significantly, however. When a conventional drug is derived from a plant, this drug is a purified form of the specific substance in the plant that is proven to have a beneficial medical effect. This substance, called the active ingredient, is delivered to the patient in a precise amount, or dose. Herbal drugs, in contrast, are made up of all the other substances and chemicals in the plant, in addition to any active ingredient they might contain. Sometimes, manufacturers of an herbal drug aren't sure which substance in the plant is the active ingredient, or how much active ingredient their herbal product delivers. Even when the active ingredient is known, the amount of it can vary widely—as much as 10,000-fold—between products made by different manufacturers.

Because herbal drugs are not regulated as drugs by the FDA, they don't have to undergo the rigorous testing that conventional drugs must undergo before they are marketed. The

manufacturers of conventional drugs must prove the safety and efficacy of their products to the FDA before the FDA approves their use. This proof comes in the form of extensive scientific studies of the drug in animals and in people.

❖ **A brief history of herbal medicines:**

People have long recognized the healing properties of certain plants. Herbal drugs have likely been around as long as humans have. Medicinal herbs were found on the body of an "ice man" frozen in the Swiss Alps for more than 5,000 years. Scientists think the man used these herbs to treat an intestinal disorder.

Many herbal medicines have an ancient history. The ginkgo tree has long been cultivated for medical use in China and Japan, where some of these hardy trees are over 1,000 years old. Chinese herbalists made tea from ginkgo seeds and prescribed the drink for many problems, including memory loss and asthma. In the 1700s, the tree was brought to Europe from China. In the 1950s, the Dr. Willmar Schwabe Company of Germany investigated the properties of the ginkgo leaf for possible medical use, and by 1970, ginkgo became one of the most widely prescribed herbals for dementia and for a type of weakness and pain in the limbs called intermittent claudication. In 1997, the *Journal of the American Medical Association* (JAMA) published a study indicating ginkgo might be useful in treating Alzheimer's disease, sparking interest in the United States.

Before Europeans arrived in America, echinacea was a popular herbal drug among Native Americans, who used it to treat respiratory infections, inflammation of the eyes, toothache, and snakebite. European colonists quickly adopted the herb. In the nineteenth century, European Americans used echinacea as a "blood purifier," believing that it cleared the blood of disease-causing toxins.

Europeans used echinacea to treat diseases such as eczema, veneral diseases, lymphangitis (swelling of the lymph vessels), and sepsis (infection of the blood with microorganisms).

Many of the herbal drugs used in the United Sates and Europe are derived from traditional Chinese medicine and Ayurvedic medicine in India. These traditions are thousands of years old, and they rely heavily on plant-based prescriptions to treat various illnesses. Many other herbal drugs are folk remedies from other cultures.

Historians of medicine note that every culture has its own tradition of folk medicine: treatments or cures widely believed to be effective, based on information gathered from trial and error on the curative properties of plants and passed down through generations.

Before the advent of modern and synthetic drugs in the nineteenth century, the United States had its own folk medicine tradition. In colonial times, people often relied on homemade botanical remedies based on the folk traditions of their original countries. People also learned about the healing properties of local plants from Native Americans.

As more Europeans came to the Americas and settlements grew into cities, some herbal remedies transformed into "patent medicines," which people could buy at the local store or from traveling salesmen. Packaged in fancy bottles and laced with generous amounts of alcohol, these medicines were of doubtful value, although their labels claimed they could cure everything from the common cold to cancer

- **Herbal drugs used in india**

- More than 70% of INDIA'S 1.1 billion population is still using non-alopathic.
- In India, nearly 9,500 registered herbal industries and a multitude of unregistered cottage-level herbal units depend upon the continuous supply of medicinal plants for manufacture of herbal medical formulations based on Indian Systems of Medicine.
- It is estimated that more than 6,000 plant species forming about 40% of the plant diversity of the country are used in its codified and folk healthcare traditions.

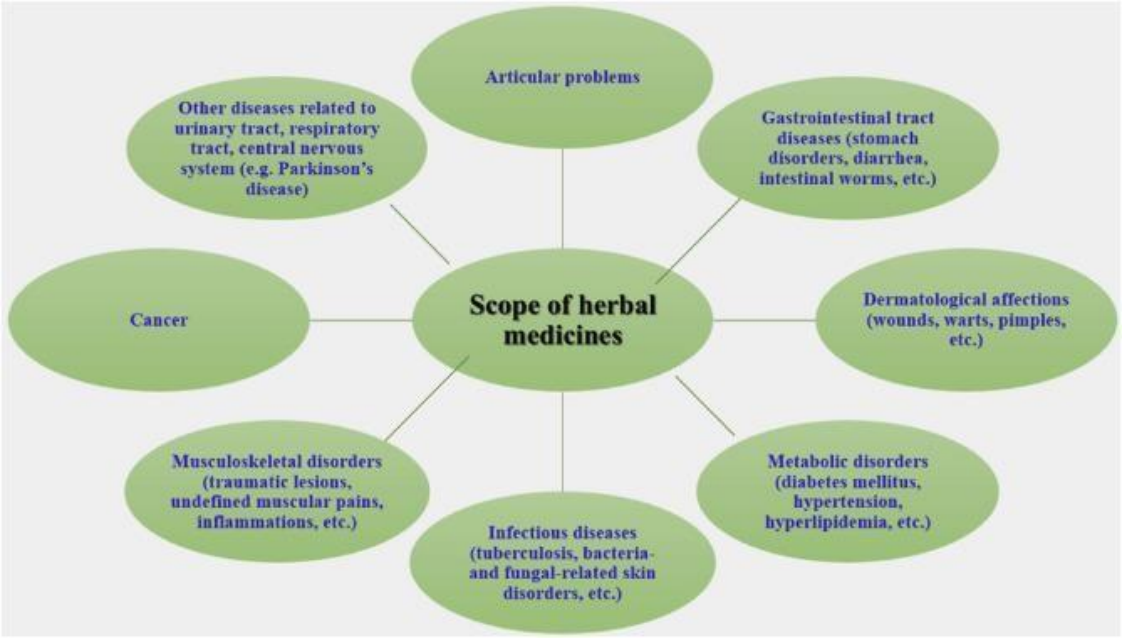

Fig. 12: Of scope of herbal medicine.

❖ **Herbal drugs for skin diseases**

1. Allium Cepa (Common name: Onion; Family: Liliacea*)*

- A study undertaken in patients with seborrheic keratoses to evaluate the ability of onion extract gel to improve the appearance of scars following excision, has shown that this extract gel improved scar softness, redness, texture and global appearance at the excision site at study weeks 4, 6 and 10 as assessed by the blinded investigator.
- In another study, the antifungal activity of aqueous extracts prepared from *A. cepa* (onion; AOE) and *Allium sativum* (garlic; AGE) were evaluated against *Malassezia furfur* (25 strains), *Candida albicans* (18 strains), other *Candida* sp. (12 strains) as well as 35 strains of various dermatophyte species.
- The results indicated that onion and garlic might be promising in treatment of fungal-associated diseases from important pathogenic genera like *Candida*, *Malassezia* and the dermatophytes.

Fig. 13: Allium.

2. A. Sativum (Common name: Garlic; Family: Liliaceae)

- In a study conducted on Swiss albino mice in whom cancer was induced by 7,12-dimethylbenz(a)anthracene (DMBA) revealed that best chemo preventive action of garlic was observed in mice in which garlic treatment was performed before and after the induction of skin carcinogenesis.
- Garlic ingestion delayed formation of skin papillomas in animals and simultaneously decreased the size and number of papillomas, which was also reflected in the skin histology of the treated mice.
- The protective effect against skin cancer elicited by garlic in mice is believed to be due at least in part to the induction of cellular defense systems.

Fig. 14: A. Sativum.

3. Aloe Vera (Common name: Barbados aloe; Family: Xanthorrhoeaceae)

- *Aloe vera* has shown very good results in skin diseases and it is often taken as health drink.
- It is also found effective in treating wrinkles, stretch marks and pigmentations.
- It also seems to be able to speed wound healing by improving blood circulation through the area and preventing cell death around a wound.
- The gel has properties that are harmful to certain types of bacteria and fungi.
- A cream containing 0.5% aloe for 4 weeks reduced the skin "plaques" associated with psoriasis.
- Application of gel helped in the improvement of partial thickness burns.
- When applied to the skin, the gel seems to help skin survive frostbite injury.

Fig. 15: Aloe Vera.

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

- Leaf extract is applied externally on boils and blisters.
- In one study, skin tumors were induced in mice by topical application of DMBA (500 nmol/100 µl for 2 weeks) followed by TPA (1.7 nmol/100 µl of acetone, twice weekly) as a promoter.
- The test group received aqueous *Azadirachta indica* leaf extract (AAILE) orally at a dose level of 300 mg/kg body weight three times a week for 20 weeks.
- The results of this study revealed the chemopreventive potential of *A. indica* against murine skin carcinogenesis.
- Study designed to determine the modulatory effect of aqueous AAILE on cell cycle-associated proteins during two-stage skin carcinogenesis in mice in which skin tumors were induced by topical application of DMBA as a carcinogen followed by the repetitive application of TPA as a promoter.
- Skin tumors obtained in the DMBA/TPA group exhibited enhanced expression of proliferating cell nuclear antigen (PCNA, index of proliferation), p21 and cyclin D1, with no alterations in p53 expression in comparison to the control group.
- Tumors in AAILE + DMBA/TPA group exhibited low PCNA and cyclin D1 expression and enhanced expression of p53 and p21 in comparison to the DMBA/TPA group.
- The skin tumors obtained in the AAILE + DMBA/TPA group exhibited high lipid peroxidation levels in comparison to the tumors obtained in the DMBA/TPA group.
- The observations of the study suggested that AAILE behaves as a pro-oxidant in the tumors, thereby rendering them susceptible to damage, which eventually culminates into its anti-neoplastic action.
- Also, cell cycle regulatory proteins may be modulated by AAILE and could affect the progression of cells through the cell cycle.
- Another study, conducted on an anti-acne moisturizer formulated from herbal crude extracts and investigated for the physico-chemical parameters as well as antibacterial activity of the formulation, revealed that ethanol extract of *Andrographis paniculata*, *Glycyrrhiza glabra*, *Osmium sanctum*, *A. indica* and Green tea possessed the potential for inhibiting acne.

Fig. 16: Azadirachta indica.

5. **Beta Vulgaris (Common name: Beetroot; Family: *Brassicaceae)***

- The *in vitro* inhibitory effect of beet root extract on EBV-EA induction using Raji cells revealed a high order of activity compared to capsanthin, cranberry, red onion skin and short and long red bell peppers.
- An *in vivo* anti-tumor promoting activity evaluation against the mice skin and lung bioassays also revealed a significant tumor inhibitory effect.
- The combined findings suggest that beet-root ingestion can be one of the useful means to prevent cancer.

Fig. 17: Beta vulgaris.

6. **Cannabis Sativus (Common name: Charas, Ganja; Family: *Cannabinaceae*)**

- The powder of the leaves serves as a dressing for wounds and sores.
- Ganja is externally applied to relieve pain in itchy skin diseases.
- Hemp seed oil is useful for treatment of eczema and host of other skin diseases like dermatitis, seborrhoeic dermatitis/cradle cap, varicose eczema, psoriasis, lichen planus

and acne roseacea.

- By using hemp seed oil, the skin is strengthened and made better able to resist bacterial, viral and fungal infections.
- Crushed leaves are rubbed on the affected areas to control scabies.

Fig. 18: Cannabis sativus.

7. Crocus Sativus (Common name: Saffron; Family: *Iridaceae)*

- Saffron is a naturally derived plant product that acts as an antispasmodic, diaphoretic, carminative, emmenagogic and sedative.
- The chemopreventive effect of aqueous saffron on chemically induced skin carcinogenesis using a histopathological approach was studied.
- Its ingestion inhibited the formation of skin papillomas in animals and simultaneously reduced their size.
- Saffron inhibited DMBA-induced skin carcinoma in mice when treated early.
- This may be due, at least in part, to the induction of cellular defense systems.
- It has also been found useful in treatment of psoriasis.

Fig. 19: Crocus sativus.

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

- A study conducted on male Swiss albino mice in whom skin cancer was induced by topical application of DMBA, revealed a significant reduction in number of tumors per mouse in the group receiving 1% curcumin obtained from rhizomes of *C. longa*.
- Pain resulting from inflammatory conditions, such as rheumatoid arthritis.
- Curcumin has also shown the potential to protect animals from diabetic vascular disease and, as a result, to speed wound healing.
- When a person with diabetes has a wound, it can take a long time to heal, and the person will have a higher risk of infection than someone without diabetes.
- These factors can lead to severe complications.

Fig. 20: Curcuma longa.

9. Daucus Carota (Common name: Carrot; Family*: Apiaceae*)

- A study, conducted to investigate the chemopreventive effects of oil extract of *D. carota* umbels on DMBA-induced skin cancer in mice for 20 weeks, revealed significant reduction in tumor incidence following administration via intraperitonial (0.3 ml of 2% oil) and topical (0.2 ml of 5, 50 and 100% oil) but least with gavage (0.02 ml of 100% oil).

Fig. 21: Dacus carota.

10. Lawsonia Inermis (Common name: Henna; Family*: Lythraceae*)

- Henna is a traditionally used plant of Middle-East that is applied on hands and feet.
- In the traditional system of medicine, leaf paste is applied twice a day, on the affected parts to cure impetigo.
- In a study, clinical improvement in the patients suffering from hand and foot disease due to use of capecitabine, an anti-cancer drug, with use of henna revealed anti-inflammatory, antipyretic and analgesic effects of henna.

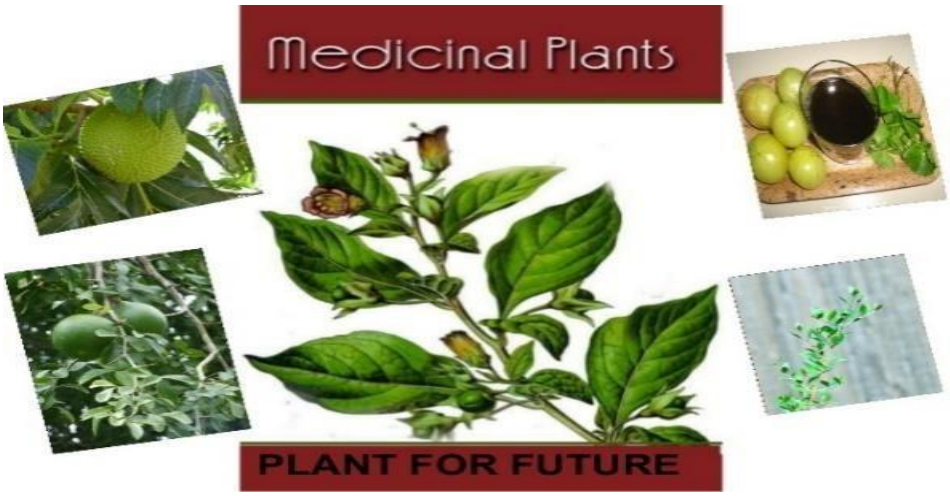

Fig. 22: Lawsonia inermis.

11. Mangifera Indica (Common name: Mango; Family: *Anacardiaceae*)

- The gum is used in dressings for cracked feet and for scabies.
- Latex is applied to cure ulcers.
- Aqueous extract of stem-bark (MIE, 50-800 mg/kg i.p.) produced a dose- dependent and significant (P < 0.05-0.001) anti-inflammatory effect against fresh egg albumin-induced paw edema in rats.

Fig. 23: Mangifera indica.

❖ **Benefits of herbal medicine**

- Herbal remedies have been used for huge number of years like conventional medicine. In fact, herbal medicine is the establishment of modern medicine. This medicine also has very less herbal side effects. Tragically, herbal medicine usually takes a backseat when compared with conventional drug therapy, which is a shame since herbal remedies offer lots of health benefits. In today's world, Herbal medicine most part used to treating intense and constant sicknesses.
- More affordable than conventional medicine
- Easier to obtain than prescription medicine
- Stabilizes hormones and metabolism
- Natural healing
- Strength in immune system
- Fewer side effects
- cost effective

- **Special considerations for herbal medicines**

- Herbal medicines can be mistakenly thought to be completely safe because they are natural products. This is not correct.
- Herbal medicines may produce negative effects such as allergic reactions, rashes, asthma, headaches, nausea, vomiting, and diarrhoea that can range from mild to severe. Like other prescription medications, herbal medicine should always be prescribed by a qualified and registered practitioner.
- Always tell your herbal therapist:
- any allergic reactions you have experienced
- If you are pregnant or planning to become pregnant.
- Be aware herbal medicine can interact with other medications
- Herbal medications and supplements may interact in harmful ways with over-the- counter or prescription medicines you are taking.
- Taking herbal supplements may decrease the effectiveness of other drugs you are taking or may increase the negative side effects.
- If you are considering taking herbal medications it is always a good idea to talk to your doctor about possible side effects and interaction with other medications you are taking.
- Purchase herbal medicine products from a reputable supplier
- Not all herbal medicines that are sold are safe. Always purchase products from a reputable

practitioner or pharmacist.

- Be careful about purchasing herbal medicines over the internet. Unregulated herbal medicines from overseas may not be manufactured to the same quality and standard as regulated medicines. In some cases, products bought over the internet have been found to have dangerous levels of lead, mercury or arsenic, which can cause serious health problems.
- Herbal medicines made in Australia are subject to regulations. Consult with your pharmacist about the safety and effectiveness of the herbal medicine or supplements you are thinking of buying. If you are considering taking herbal medicine, it is recommended that you:
- Never stop taking prescribed medications without consulting your doctor.
- Always tell your doctor if you are planning to start a course of herbal medicine for your condition.

❖ CONCLUSION

Herbals have great potential to cure different kinds of skin diseases. More than 80% of people in India depend on traditional health care and use different plant based products for curing skin related problems. Compared with the conventional allopathic drugs, they have relatively low cost and can be of great benefit to the population of India in general and poor people in particular. Herbals are a rich source of active ingredients and can be safer and cost effective treatment for skin diseases ranging from rashes to dreadful skin cancer. More than 50% of plant species useful for treatment of skin diseases appear to be restricted to forests, so activities such as deforestation, habitat destruction, urbanization etc., may pose a serious threat to these species. Conservation of these plants with the help of local participation and carrying out of extensive research in this respect to broaden the prospects of herbal drugs in skin disease treatment is the need of the hour.

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