

A REVIEW ON MEDICINAL PLANTS USED IN CERTAIN SKIN DISEASES

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ABSTRACT:

Skin diseases are a common and multifaceted health issue that impact individuals of all ages, from newborns to the elderly, and can be harmful to several methods. A healthy body depends on maintaining good skin. Numerous people are susceptible to skin conditions like cellulitis, herpes, and malignancy. Several wild plants and their components are widely utilized in the treatment of various illnesses. The treatment of these illnesses often involves the use of certain wild plants and their parts. The legend around medicinal plants in India are extensive. In India, a wide range of its formulations have been used to treat burns, wounds, cuts, and other skin conditions. The herbal plant use dates back to the dawn of humankind. Natural medicine is said to be safe and inexpensive. Clinical study on herbs hopefully leads to new treatment directions. The research that has been published in 14 therapeutic plants originating from various households and their applications within the management of the skin conditions is compiled in this review. This page mostly focuses on a few common skin disease issues, herbal remedies used to cure illnesses, and various pharmaceutical formulations.

Keywords: Malignancy, Herbal medicinal plant, skin disease.

INTRODUCTION

For thousands of years, herbal treatment has been utilized to treat skin conditions. Even the big apes, who are biologically related to us, self-medicate with herbs. Due to the trade in ethnobotanical knowledge and the availability of plants in the area, certain herbs and their applications emerged as regional solutions. Herbal medicine systems evolved on a regional basis throughout the Americas, Africa, Asia Europe and the US. Patients and, to a lesser extent, doctors are increasingly turning to herbal therapies, including those for skin conditions. Scientific research is currently being conducted on herbal remedies that have been utilized for generations in Asia, particularly in China and India.

Skin Anatomy:

The skin is the largest organ in the body, covering about 20 square feet in total surface area. Our epidermis allows us to feel touch, heat, and cold, as well as shields us from microbes and the surroundings. It also aids in regulating one's body temperature.

Skin has three layers:

Our skin tone is determined by the epidermis, which is the outermost layer of skin and acts as a waterproof barrier. Beneath the epidermis, the dermis is home to hair follicles, strong connective tissue, and glands that sweat. The hypodermis, or deeper subcutaneous tissue, is composed of connective tissue and fat.

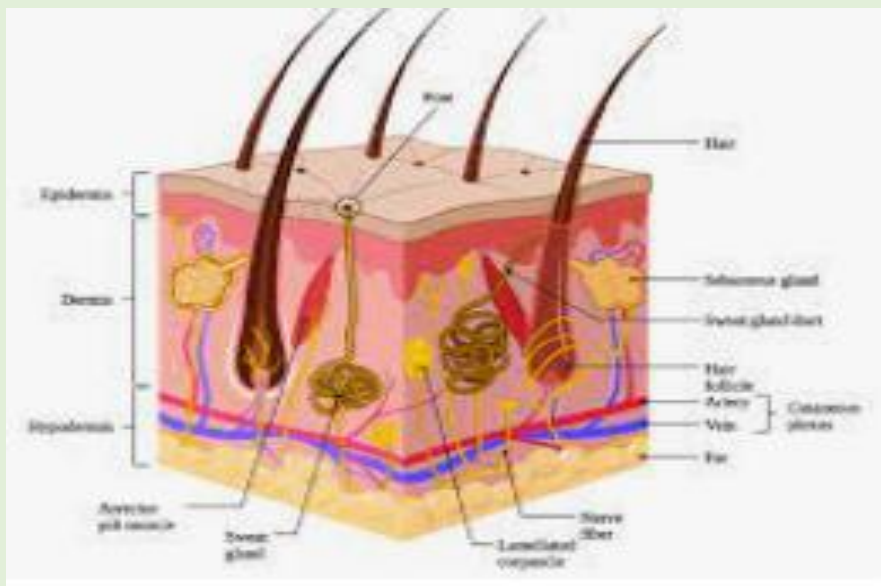


Fig.1: Anatomy of Skin

Epidermis:

The epidermis, the top layer of your skin, is extremely thin in certain areas of your body (like your eyelids) and thicker in other areas (like the bottoms of your feet). The skin layer known as the epidermis is responsible for:

- Developing new skin cells:** This process takes place at the base of the epidermis. The cells of the skin approximately one month after they form, rise to the top layer and peel off. Skin color Melanin, which is produced by the epidermis, is what gives your skin its color.
- Defending your body:** Certain immune system cells are found in the epidermis. system and support your continued health.

Dermis:

The dermis, the next layer, is where a lot occurs. One of the functions of the dermis is to produce perspiration. The dermis contains tiny pockets known as sweat glands. Sweat is produced by them and exits through tiny tubes known as pores. Perspiration keeps you cool and aids in the removal of unwanted substances from your body. **Facilitating sensation:** Dermal nerve terminals facilitate sensation. They transmit messages to your brain, enabling you to perceive pain and take appropriate action. Whether it itches or feels good to the touch, stop stroking it. **Developing hair:** Every microscopic hair on your body has its source in the dermis skin. Every root cling to a little.

Hypodermis:

The subcutaneous fat layer is the layer of skin beneath the surface.

This layer is vital to your body because it ties your muscles and bones to the dermis: This layer has a unique connection feature. Tissue that binds your muscles additional bones to the dermis.

Promoting the growth of blood vessels and nerve cells: These anatomical structures develop in the dermis and spread out over the rest of the body.

Managing your body's temperature: The layer that assists in maintaining subcutaneous fat prevents your body from overheating or cooling down.

Storing fat: This fat cushions and shields your bones and muscles from bumps and tumbles.

Skin types:

Even though the structure of human skin is essentially the same, small biological variations can have a significant impact on how well your skin is maintained. People might vary in the amount of water they store in their skin, as well as in the activity of their sweat and sebaceous glands.

Here are some common human skin types:

Oily skin
Combination skin
Normal skin
Dry skin
Sensitive skin

Function of Skin:

The skin's function in shielding the body from infections and excessive water loss is crucial, as it serves as an interface with the external world. In addition, it serves as insulation, regulates body temperature, senses, stores and synthesizes vitamin D through the action of ultraviolet (UV) light, protects vitamin B folates, absorbs oxygen and medications, and is water resistant. Scar tissue is the skin's attempt at healing from severe trauma. This is frequently depigmented and discoloured. keeping infections at bay. The immune system includes the skin's Langerhans cells. preserving water and lipids (fats). By means of nerve endings that are capable of sensing touch, pressure, vibration, temperature, and damage, sensation is created. minimising water loss by keeping water from evaporating away. Giving the skin water resistance by keeping nutrients from being removed. Promoting sweating and blood vessel dilatation, both of which aid in thermoregulation and keep the body cool. Heat retention is aided by "goosebumps" and constricted blood vessels.

Common Skin Problems:**Acne:**

The most prevalent skin condition in the US is acne. Although we typically identify acne with teenagers, an increasing number of adults are also experiencing this condition. Many people think that acne is temporary and that they shouldn't worry about it. For the majority of people, this is typically not the case, while it may be for a tiny minority. Typically, acne affects the face, upper back, neck, chest, and shoulders. Breakouts can manifest as painful nodules and cysts, whiteheads, blackheads, or pimples. Acne vulgaris has been linked to *Propionibacterium acnes* and *Staphylococcus aureus*.



Fig.2: Skin-related acne

Dermatitis:

A dermatitis is a skin disorder characterized by rough, cracked, itchy, and inflammatory spots. Some varieties may also result in blisters. Atopic dermatitis, also known as atopic eczema, is a chronic inflammatory illness that affects persons who have a genetic predisposition to respond to outside stimuli. Well, it is frequently observed inside conjunction Having asthma, allergic rhinitis, or other atopy symptoms. Children's atopic dermatitis is a common type of skin condition. severe itching and dryness of the skin, redness, dense lichenified plaques with excoriation, and scaly patches are the most frequently seen signs of atopic dermatitis.



Fig.3: Eczema on the skin

Cold sores:

The herpes simplex virus is the source of cold sores, which are tiny blisters that appear on the lips or in the mouth. Frequently, they begin with a burning, tingling, or itchy sensation near your lips. Then, little ulcers filled with fluid often develop on the corners of your lower lip. Although cold sores typically go away on their own in seven to ten days without treatment, pharmacies provide antiviral treatments.



Fig.4: Cold sore

Hives:

Hives, also known as urticaria, are sudden, swollen, pale red pimples or plaques (called wheals) on the skin that might be brought on by an unidentified cause or the body's reaction to certain allergens. Although they can burn or hurt, hives typically cause irritation. Before fading, they can last for several hours or even a day. Twenty percent of the population is affected by this fourth most common allergy disease at some point in their lives.



Fig.5: Hives affected the skin

Psoriasis:

Usually, psoriasis results in dry, red skin coated in silver scales. The patches, which can be itchy or uncomfortable, typically develop on the lower back, knees, and elbows. Psoriasis can have a significant effect on someone's quality of life for some people, while it only causes slight annoyance of others. About 3-4% of adult Americans suffer from psoriasis, a prevalent, chronic immune-mediated skin disorder. Psoriasis patients may experience redness, scaling, peeling, pruritus, skin tightness, soreness, and bleeding as symptoms. These side effects can seriously impair a patient's ability to operate both physically and mentally.



Fig.6: Psoriasis affects the skin

Ringworm:

Ringworm is a contagious fungal infection that can appear practically anywhere on the body, but it usually affects the arms and legs. It is not a true worm infection. It results in a ring-shaped rash that is red or silvery-scaly. Ringworm can affect anyone, although children are more likely to have it. Antifungal creams, powders,

or tablets that are sold over-the-counter at pharmacies can be used to treat ringworm. If you're not sure if it's ringworm or if the infection does not go away after two weeks of using a prescription medication, you might need to see a general practitioner.



Fig.7: Ringworm

Herbal Drugs

What are herbal Drugs?

Herbal medicines are prepared from a variety of plants that are known or thought to have therapeutic qualities, including roots, stems, leaves, bark, fruit, seeds, and flowers. Additionally, a lot of traditional medications come from plants. The term "drug" actually derives from the French word "drogue," which means "dried herb."

Herbal Drugs Used In India:

Over 70% of the 1.1 billion people who live in India still use non-allopathic medicine. A vast number of unregistered cottage-level herbal units and about 9,500 registered herbal companies in India rely on a steady supply of medicinal plants to make herbal medical formulations based on Indian Systems of Medicine. It is believed that the nation's codified and oral medical traditions use around 6,000 plant species, or roughly 40% of the plant diversity in the nation.

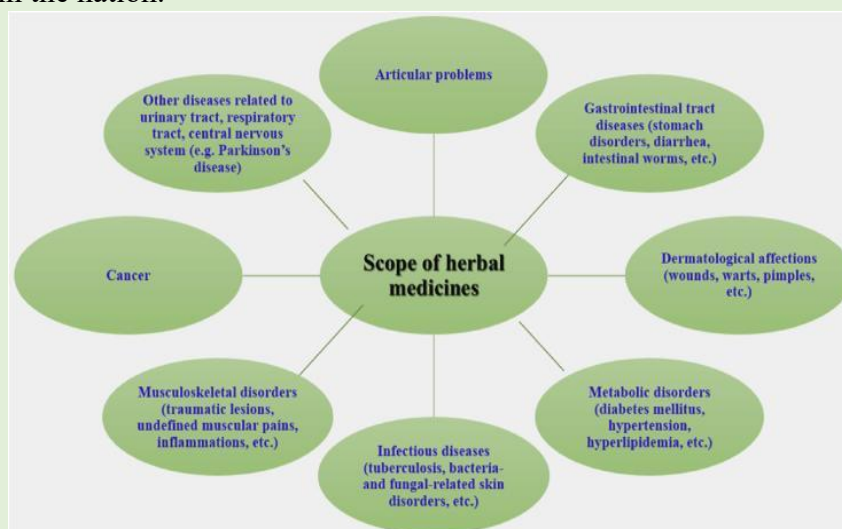


Fig.8: Scope of herbal medicine

Table No.1: A list of medicinal plants together with their respective use for treating skin condition

| Sr. No | Name in Botany | Family | Local name | Parts used | Skin diseases |
|--------|------------------------|-----------------|-------------------|---------------------------|--|
| 1 | Matricaria chamomilla | Asteraceae | Chamomilla | Flowers, oil | Eczema, bacterial skin infection |
| 2 | Azadirachta indica | Meliaceae | Neem | Leaves, fruits, oil | Acne, eczema, fungal infection, rashes |
| 3 | Curcuma longa | Zingiberaceae | Turmeric | Roots, creams | Psoriasis, acne, eczema |
| 4 | Calendula officinalis | Asteraceae | Marigold | Flowers | Rashes, wound healing, boils |
| 5 | Crocus sativus | Iridaceae | Saffron | Stigmas | Acne, psoriasis |
| 6 | Avena sativa | Poaceae | Oats | Oatmeal, lotion | Eczema, erythema, rashes, burn |
| 7 | Cassia fistula | Fabaceae | Golden shower | Seeds, flowers, fruits | Ringworm, fungal infection |
| 8 | Rosmarinus officinalis | Lamiaceae | Rosemary | Oil | Acne, sunburn, cellulitis |
| 9 | Achyranthes aspera | Amaranthaceae | Aghedo, Latjira | Leaves | Skin rashes, fungal infection, boils |
| 10 | Lawsonia inermis | Lythraceae | Henna, Mehendi | Leaves | Psoriasis, furunculus, boils |
| 11 | Bauhinia variegata | Caesalpiniaceae | Tree Orchids | Bark, leaves, and flowers | Skin diseases and cancers |
| 12 | Echinacea angustifolia | Asteraceae | Purple coneflower | Root preparations | Wounds, burns, skin infections |
| 13 | Cannabis sativus | Cannabaceae | Charas, ganja | Leaves powder | Wounds, sores, scabies |

| | | | | | |
|----|----------------------------|------------------|-----------|----------------|---------------------------------------|
| 14 | Aloe barbadensis Miller | Xanthorrhoeaceae | Aloe vera | Gel | Psoriasis, burn, wound healing |
| 15 | Allium sativum | Liliaceae | Garlic | Extract | Psoriasis, scars, fungal infection |
| 16 | Allium cepa | Liliaceae | Onion | Extracted gel | Scars, antifungal |
| 17 | Camellia sinensis | Theaceae | Green tea | Leaves extract | Skin tumour and cancer |
| 18 | Daucus carota | Apiaceae | Carrot | Extracted oil | Skin cancer in mice |
| 19 | Ficus racemosa | Moraceae | Fig | Bark powder | Scabies, itches, pimples |
| 20 | Sarco asoca | Caesalpiniaceae | Ashoka | Roots paste | Eczema, psoriasis |

1. Chamomilla

The Asteraceae family species *Chamomilla recutita* (*C. recutita*) stands out among the many other medicinal herbs and is used for one of the most prevalent herbal therapeutic purposes. Numerous descriptions of its anti-inflammatory qualities, including its antioxidant activity, antispasmodic, sedative, anti-microbial, anti-allergic, anti-hyperglycemic, and antibacterial qualities, support its acknowledged usage as a medical herb. *C. recutita* has been used to treat a variety of skin issues, including eczema and skin irritations. For the treatment of several skin disorders, including erythema, pityriasis alba, lesions comparable to eczema, peristomal damage, contact dermatitis, phlebitis, atopic eczema, radiodermatitis, induced contact dermatitis, wound healing, and eczema, chamomile was utilized in a total of 11 comparative clinical investigations.

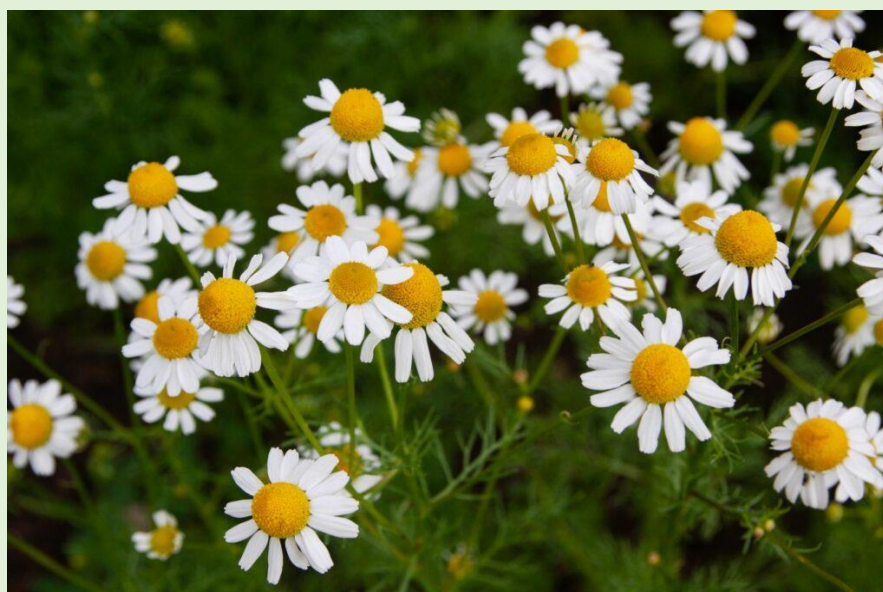


Fig.9: Chamomilla

2.Neem

For generations, *A. Juss*, also known by its traditional name, Neem (*Meliaceae*), has been well-known as a source of active ingredients for products intended for use by health practitioners in distant areas. The majority of research elucidated the antibacterial characteristics in medical diseases such as acne, dandruff, and personal hygiene. Large native to India, *Azadirachta indica*, or neem, is used historically for its many uses, primarily for skin conditions and for its "herbicidal" effects. Because of the presence of potent secondary metabolites with biological effects, primarily limonoids and tetranortriterpenoids like azadirachtin, its bark, leaves, seeds, fruits, and flowers are commonly employed in medicinal therapy. As a result, *A. indica* was investigated as a biopesticide and as an anticancer, antimicrobial, anti-inflammatory, and chemo preventive agent.



Fig.10: Neem

3.Turmeric

Curcumin, a naturally occurring yellow pigment found in turmeric, has numerous antibacterial, anti-inflammatory, and antioxidant qualities. Owing to these characteristics, Curcumin has been utilized as a therapeutic and preventative measure for psoriasis, infections, acne, inflammation of the skin, and skin cancer. Curcumin has shielding properties against UVB ray damage to the skin over time. Because of its anti-inflammatory qualities, curcumin may be a useful treatment for psoriasis. Through TGF- β reduction and the inhibition of NF-kB, TNF- α , and MAPK pathway, curcumin has antiproliferative characteristics that prevent accelerated skin aging caused by lowering inflammation and suppressing radicals in the free world. Furthermore, curcumin in part guards against sun damage, which could lower that cutaneous tumour growth and serve as a useful preventative measure for an early age.



Fig.11: Turmeric

4.Marigold

A well-known medicinal plant, *calendula officinalis* belongs to the aster family (Asteraceae). The countries around the Mediterranean are home to the genus. Traditionally, pot marigold Linn. has been used to cure a variety of dermatological diseases, skin tumors, swellings, ulcers and neurological conditions. *Calendula officinalis* flower extract has been shown to have wound and burn healing properties when applied topically and over time. The topical preparations containing marigold extract (ME) (common marigold extract) exhibit a photo-protective impact on UV-B irradiation-induced skin damage. UVB irradiation-induced histological skin alterations are lessened by gel formulation.



Fig.12: Marigold

5.Saffron

A naturally occurring plant product, saffron has sedative, emmenagogic, carminative, diaphoretic, and antispasmodic properties. The protective properties of aqueous saffron against chemically generated skin cancer through a histological strategy was examined. Consuming it prevented the development of animals' skin papillomas and concurrently shrunk them. In mice, saffron prevented DMBA-induced skin cancer when early

intervention. This could be because of the induction, at least partially, of defense mechanisms within cells. Additionally, it has proven helpful in therapy for psoriasis.

When animals ingested it, their skin papillomas shrank in size and were prevented from growing. Early treatment with saffron prevented mice from developing skin carcinomas caused by DMBA. This could be caused by the activation of cellular defense mechanisms, at least partially. Moreover, psoriasis has been proven to respond well to its treatment.



Fig.13: Saffron

6.Oats

It originally comes from the warm Mediterranean region. This plant is annual. "Shofan" is the Saudi Arabian name for *A. sativa*. For their grain output, oats are grown in Asia, North America, and Europe. Its composite panicle-shaped inflorescence is unique, not like barley, rye, or wheat. It is believed to fortify skin and lessen water loss, which exacerbates the ailment. Moreover, oatmeal may lessen irritation. Colloidal oats have been used for ages as a topical therapy for many skin disorders, including rashes, dermatitis, burns, erythema, and itching, yet few research have investigated the exact mechanism of action underlying colloidal oatmeal's anti-inflammatory properties.

The "soluble fiber" that makes oats heart-healthy is called β -glucan. Additionally employed as scaffolding to promote the growth of bioartificial skin, β -glucans are recognised to help promote wound healing, the body's reaction to damage and infection, and possess a remarkable ability to hold water.



Fig.14: Oats

7. Golden shower

The Golden Shower, or *Cassia fistula*, is a semi-wild Indian Laburnum that grows throughout Asia, South Africa, Mexico, China, and the West Indies. Brazil and East Africa. It's a decorative tree with lovely clusters of yellow blossoms. This evergreen climber is extensively employed in the conventional Indian medical system, Ayurveda, to cure an extensive range of ailments. It is also applied to the management of persistent mucous diseases, leprosy, bronchitis, dropsy, goitre, and sight tumours, sore throats, skin conditions, and weakness. Scabies is treated with leaf juice twice a day for six days. One of the ingredients in "SULAK" (the drug used to cure leprosy) and its cream is origin powder.

Native Americans make extensive use of this plant to treat a wide range of conditions, such as ringworm and other fungal skin illnesses. Significant antibacterial action was shown by *Cassia fistula*, and displayed characteristics that encourage the use of folklore in the healing of many illnesses as all-purpose antimicrobials. Because ripe apple pulp has a somewhat pleasant purgative effect. and also possesses antifungal qualities. In its whole, the plant is fruits, flowers, and seeds are utilized to alleviate diarrhoea. Address conditions of the skin.



Fig.15: Golden Shower

8. Rosemary

Because of its medicinal qualities, the rosemary plant, *Rosmarinus officinalis* L., one of the principal members of the Lamiaceae family, is presently one of the most promising herbal remedies. The purpose of this study was to assess *Rosmarinus officinalis*'s antioxidant capacity and bioactive substances on the skin, emphasizing the recently discovered chemical mechanisms in play, offering a wealth of scientific proof of its antibacterial, anti-inflammatory, wound-healing, and antitumor activity in the practise of dermatology. Potential uses for rosemary include the development of cosmetic products and the management of both pathological and non-pathological disorders, including alopecia, cellulite, UV damage, and growing older. Prolonged exposure to UV light might cause symptoms like photoaging and photo cancers. water-based extract of *R. officinalis* works well to stop photodamage from occurring because of UV radiation's antioxidant properties.



Fig.16: Rosemary

9.Aghedo

The erect, multibranched medicinal plant *Achyranthes aspera* L. (family: Amaranthaceae) is frequently seen growing as a weed in tropical and warm climates. Cough, asthma, and COPD are just a few of the ailments that have historically been treated with *Achyranthes aspera*. It has an assortment of medical advantages, such as purgative and laxative, pungent, antiperiodic, and diuretic properties that are helpful for pimples, boils, rashes, dropsy, and swelling. Strain was relieved from hurting backs by applying crushed leaves²⁶. Brushes are frequently made from the plant's roots. Using A concoction prepared from fresh leaves could cause discomfort. protection against wasp stings. This herb is helpful for skin disorders such as scabies and rheumatism. It also has soothing properties.



Fig.17: Agheda

10.Heena

One of the most widely used medicinal herbs in traditional Persian medicine is henna (*Lawsonia Inermis* Linnaeus), which is used to treat dermatological issues and speed up wound healing. Numerous studies have shown that henna is effective in treating skin conditions like dermatitis, which includes diaper dermatitis, bedsores, itching. Henna has been demonstrated to have antipruritic properties and to speed up the healing of

wounds. Furthermore, certain studies have shown that henna has antimicrobial and antifungal qualities. This plant's powdered leaves are used as a paste to treat various mycotic diseases, boils, and wounds. They are also used as a cosmetic color. The leaves used to make the paste are administered twice a day to the afflicted regions to treat impetigo day.



Fig.18: Heena

11.Orchid Tree

A well-known ornamental tree native to tropical and subtropical regions, it enjoys mild winters and hot, dry summers. It is commonly seen in the Indian subcontinent and is native to Asia, as well as in parts of China. Trees thrive in locations with full sun or light shade, and it can withstand some drought, although prone to ignite. The bark is applied externally to cure skin ulcers and is taken orally to treat skin ailments, asthma, sore throats, diarrhoea, and abdominal discomfort. Significant prevention was seen in the skin papilloma model, with delayed appearance and a decrease in the total number of papillomata over time. Group treated with DMBA, Kachanar, and croton oil in comparison to the Croton Oil Group + DMBA. Mice C57 Bl who were given a Kachanar extract 50% methanolic extract at the dosages of for 30 days, 500 and 1000 mg/kg body weight showed a rise in Both the life duration and the size of the tumour were much shorter than to regulate.

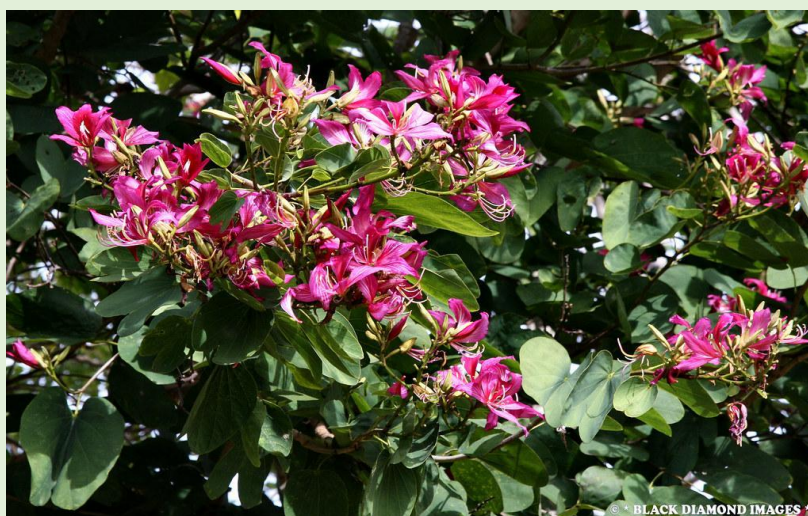


Fig.19: Orchid tree

CONCLUSION:

Herbs have the ability to treat a wide range of skin conditions. In India, almost 80% of people rely on conventional medical care and apply various plant-based skin care products. associated issues. Compared with the traditional allopathic method medications, which can be quite beneficial and are generally inexpensive, the people of India, both the impoverished and the general populace. Herbs are a great source of active compounds that can be used in a safer and more cost-effective way to treat a variety of skin conditions, from rashes to serious skin cancer. Over 50% of plant species have practical uses. For the treatment of skin conditions seem to be limited to forests, so actions like habitat degradation, urbanization, and deforestation etc., might represent a significant risk to these species. It is imperative that these plants be conserved with the assistance of the local community and that in-depth research be done in this area to increase the potential of herbal medications in treating skin diseases.

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