

# Some traditional Ethno-Medicinal Plants specially used in the treatment of skin diseases in Bihar, India

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## ABSTRACT

Our surroundings have been attached with their environment since the prehistory and use the traditional plants for food and medicine.

Application of plants ingredients on the basis of healer knowledge and experience and gradually we became able to differentiate what is good for our health and what is bad for us.

Knowledge about medicinal plants has been express gradually and from generation to generation, a healer knowledge has gradually become complete with the formation of civilizations and the provision of more clinical.

Traditional medicinal plants are used as a medicines resource in almost all cultures. They are used to treat various ailments and diseases. Confirm the quality, effectiveness and safety of traditional medicinal plants before its used.

We are study about those traditional medicinal plants which is specially used to treat skin related problem.

This review describe uses of traditional medicinal plants for curing skin diseases, and knowledge source of traditional healers and documented traditional health care practices in a particular region.

## 1. Introduction

Skin diseases is common in human body in all ages, skin is outer cover of human body it is largest organ of the human body. Many people suffering from skin diseases, that affect skin, some traditional medicinal plants is used to treat these diseases.

Skin have three layers, each layer plays an important role in the over all function of skin, most outer layer is called defence layer of body.

Skin contains many special cells and structure that helps to protect internal organs in human body. If skin is affected by any infections and diseases its disturbed many other organs.

Traditional medicinal Plants play key role in the field of medical science, it may be safe and secure then modern treatment. Medicinal plants are nontoxic and easily affordable, it is not only used for pharmaceutical research and drug development but also used plant extracts directly as medicine.

In this study document the list of traditional medicinal plants that are used to treat skin diseases specially.

## 2. Materials and method

India is called botanical garden because here's various types of traditional plants found, Bihar is also blessed with traditional medicinal plants.

The recent work was carried out on the basis of field visit in different localities in the state of Bihar during my research. The traditional medicinal plants which is specially used to treat skin diseases. Information collected through interviews with local healer, and rural people. and also visit on site where traditional medicinal plants found.

Presents study's about 12 important traditional medicinal plants which is widely used in skin diseases, and commonly found in all over the state.

Table 1. List of some traditional ethno medicinal plants used in the treatment of skin diseases.

Botanical name	Local name	Family	Medicinal uses
<i>Mentha piperita</i>	Pudina	Lamiaceae	Leaves crushed and applying on face for brighten complexion.
<i>Curcuma longa</i>	Haldi	Zingiberaceae	Haldi is used to cure pimples & small wounds infections.
<i>Ocimum tenuiflorum</i>	Tulsi	Lamiaceae	Leaves is used for acne and pimples oils is help to cure infection.
<i>Aloe barbadensis miller</i>	Alovera	Asphodelaceae	Treat burn skin, acne , pimples
<i>Azadirachta indica</i>	Neem	Meliaceae	Used for healing wounds.
<i>Santalum album</i>	Chandan	Santalaceae	Remove acne, pimples brighten skin tone.
<i>Citrus lemon</i>	Lemon	Rutaceae	Contains vitamin c that helps to brighten complexion.
<i>Carica papaya</i>	Papaya	Caricaceae	Contains vitamin A that helps to nourishes skin.
<i>Mangifera indica</i>	Mango	Anacardiaceae	Mostourise and hydrating the skin.
<i>Eclipta prostrata</i>	Bhringraj	Asteraceae	Treat skin inflammation, psoriasis and laprosy.
<i>Tagetes erecta</i>	Marigold	Asteraceae	Treat eczema and psoriasis.

<i>Rosa</i>	Rose	Rosaceae	Cure redness and irritations.
<i>Catharanthus roseus</i>	Cape periwinkle	Apocynaceae	Leaves is used to cure pimples.
<i>Hibiscus rosa-sinensis</i>	Hibiscus	Malvaceae	Used to purified skin, and anti-aging.

**3. Results and discussion**

The study found that different parts of the medicinal plants species were used as a medicine or any crude form namely stem, Bark, flower, fruit, leaves, seeds, roots etc. now explain the traditional medicinal plants that are given above the table. Medicinal properties, use parts, use in skin therapy .



Fig.1Mentha-piperita.

**Chemical Constituents:-** The major constituents of the essential oil are minthal ailments minthal methone, pulegone, menthofuran, 1-8 cineole menthayl acetae isomenthene. The leaves contain flatonoids, glycosides, eriocitrim lutenalin 7-0 rutinocide, hesperidin, isorhoiside, and narirutin, beside rosmarinic acid azulenes, choleme, carotenes .

**Used part:-** leaves.

**Uses in therapy:-** The paste of leaves of Mentha-piperita is applied over the infected skin to get relief from



Fig.3 Curcuma longa plants.

**Chemical constituents:-** Curcuma longa contains curcuminoids atlantone, bisdemethoxycurcumin, diarylpentanoids, monoterpenes, sesquiterpenes, diterpenes, triterpenoids, alkaloid, and sterols demethoxycurcumin, diaryl heptanoids, and tumerone.

**Used part:-** Root.

**Uses in therapy:-** Turmeric contains antioxidant anti-inflammatory, and antimicrobial properties that helps to cure lot of skin problems like laprosy eczema, psoriasis. it is used to cure cuts and wound.

**1.Mentha piperita ( pudina)** Mint is a genus of plants in the Lamiaceae. It is a herb It is rich in antioxidants, phytonurients and menthol. Mentha piperita is a perennial herb growing in the normal soil .The plant has a strong odor and grows to a height of 1-2 feet. The leaves are slimy, dark and have a strong odor. The flowers are purple in color.



Figure 2. Mentha-piperita leaves

pain and localized inflammation. It leaves crushed and applying on face for brighten complexion. Pudina contains antibacterial properties, and salicylic acid both are prevent acne and pimples. It is also used to hydrating and rejuvenates skin.

**2.Curcuma longa (Haldi):-** Turmeric is a genus of the plant in the Zingiberaceae family. It is a perennial herb native to the Indian subcontinent and south asia. It is grows up to the 1 m. It have simple long leaves with a long stem turmeric flowers are look like funnel shape, flowers are white pink and yellow in colour.



Fig.4 Curcuma longa .

Turmeric is used for facial glow, it is used as facepack for clear and bright skin, it helps for skin tightening, remove age sign, pimples wrinkles etc. last but not least it is a magic plants for those who suffering from skin problems.

**Ocimum tenuiflorum:-** Tulsi (Ocimum tenuiflorum) Family Lamiaceae, is a native shrub to Indian subcontinent it is grows upto height of 3 to 5 feet. It is cultivated all over the world. Tulsi is cultivated all over the india for religious and medicinal purposes. It is widely used for kadha. Tulsi can address any type of stress through a unique combination of

pharmacological action. Tulsi may be protect organs and tissues against chemical stress.



Fig.5 *Ocimum tenuiflorum*.

**Chemical Constituents:-**The important chemical constituents of *Ocimum sanctum* are methoxy, hydroxy, Oleanolic acid, Ursolic acid, Rosmarinic acid, Eugenol, Carvacrol, Linalool, and  $\beta$ -caryophyllene, caryophyllene. These are present in the plants, consists of anti-inflammatory, antibacterial, antifungal, adoptogenic, antioxidant.

**used part :-** leaves.

**Uses in therapy:-** Tulsi is used to treat various diseases, it has anti-inflammatory, bacterial antiseptic, antioxidant properties that helps to cure pimples acne, and relives skin infections, it is also used to remove blackheads.

***Aloe barbadensis miller (Alovera):-***The alovera plants like cactus plant species, it is a large evergreen shrub in Asphodelaceae (Liliaceae) family. it is perennial plant that grows 3 feet tall in tubular shape, and it can grow upto 20 inches long and 5 inches wide, with various tiny teeth.

Alovera flowers is yellowish which carries lots of seeds. Alovera plants can mature in 3 to 4 years. More than 400 types of alovera plants found with variety of height and texture, some examples like tiger aloe, lace Aloe, blue aloe etc.



Fig.6. *Aloe barbadensis miller*.

**Chemical constituents:-** Carbohydrates, Protein, abesin, Mallic, acid, Tannins amino acids,. Anthraquinones, saponins, steroids, salicylic acid, chromosome, vitamins, vitaminsA, vitamins B12, vitamins E.

**Used part:-** Pulp and juice of the leaves.

**Uses in therapy:-** The alovera gel and latex is used to cure various skin related problem, aloe Vera gel has anti-inflammatory and cooling Properties. Hence, it is one of the most natural remedies for sunburn or burnt skin. Applying this gel helps with a protective layer for the skin, and it also helps to retain moisture. It is rich in antioxidants and minerals that boost the healing process.

***Azadirachta indica (Neem):-***Neem( *Azadirachta indica*) is cultivated in the almost all over the world. and it is used in treating various diseases due to many medicinal values. Neem tree is a fast growing tree that can reach to a height of 15-20m, and very favourable condition up to approximately 35 to 45 m. Neem is an omipotent tree and scared gift of nature. More than 2 species of neem are distributed around the whole country.



Fig.7 *Azadirachta indica*.



Fig.8 *Azadirachta indica* flowers



Fig.9 *Azadirachta indica* fruits

**Chemical Constituents:-**Neem leaves have extract active

Chemical constituents includes isomeldenin, nimbin, nimbinene, 6 desacetyl nimbinene, nimbandiol, immobile, nimociol, quercetin, and bectasitosterol, nimbolide, nimbadin

Tetracycline, triterpenoids acids, zafaral, tetra, anorapotricalla, (apoeupha)-6-alpha-methoxy, -7alpha, -acetoxyl-14, dine-3,16, dione-21-all,(1) and meliacin anhydride, 24,25,26,27, tetra anorapotirucalla-(apoeupha)-6 alpha hydroxy, trien,3, one has been isolated from the methanolic extract of neem leaves.

**Used part:-** Whole plant.



Fig.10 *Santalum album* wood

**Chemical Constituents:-** sandal contains following chemical  $\alpha$ -Santalol and  $\beta$ -santalol and santenone are main constituents of the sandal.

**Used part:-** wood

**Uses in therapy:-** sandalwood has anti-inflammatory and cooling Properties that helps to cure various skin ailments. It is used to treat eczema, dermatitis and psoriasis, as well as calm irritated skin and flatten breakouts.



Fig 12. *Citrus lemon*. Tree.

**Chemical Constituents:-** Lemon has many bioactive components such as citric acid, Ascorbic acid, minerals, flavonoids and essential oils. Lemon is very rich in vitamin C. It

**Uses in therapy:-**The healing properties of neem is mainly due to some bitter substances known as triterpenoids acids, (limonoids) with Azadirachta as one of the main active ingredients.

The tree is also known in India as a "village pharmacy" referring to its uses to treat a variety of ailments and diseases. It is very helpful to cure skin related diseases.

***Santalum album* (Chandan):-** Chandan is a native to Southern India but it is also found in some other states of India. The height of the evergreen tree is between 4 and 9 metres. They may live to one hundred years of age.



Fig.11 *santalum album* flowers.

***Citrus lemon* (Nimbu):-**Lemon is a very popular plant. It is found in every house of Bihar. It is very helpful and has various medicinal properties. Lemon tree is 8 to 12 meter long and has very thin stem. In lemon stem is 1 inch long. Thorn protects fruit from animals and insects. Lemon leaves are medium in size.



Fig.13 *Citrus lemon* fruits.

contains minerals such as calcium magnesium and phosphorous .

**Used part:-** Leaves, Fruits.

**Uses in therapy:-**Lemon is beneficial for skin care and good for health. Lemon is an important natural antiseptic and excellent for glowing skin and beauty care. It contains vitamin c that helps to rejuvenate skin glow from inside.

**Carica papaya (papita):-**Papaya is a power house of nutrients and is available through out the year in Bihar . It is easily found. It is a rich source of 3 powerful antioxidants vitamin C, vitamin A, vitamin E. It contains minerals, magnesium, potassium, vitamin B, pantothenic acid and fibre.



Fig.14 *Carica papaya*.

**Chemical Constituents:-**Antioxidants, vitamin C, vitamin A, vitamin E, minerals, magnesium, potassium, vitamin B, pantothenic acid, folate, and fibre in addition to all this it contains a digestive enzyme.

**Parts used:-** Fruits.

**Uses in therapy:-**Antioxidants, vitamin C, vitamin A, vitamin E, minerals, magnesium, potassium, vitamin B, pantothenic acid, folate, and fibre in addition to all this it contains a digestive enzyme.

Papayas are good for skin, it contains vitamin A and papain enzyme, it helps to nourish skin and remove dead skin cells. It also used for hydrating skin. It has anti-aging Properties that helps to rejuvenate skin and make a clear glowing skin.

**Mangifera indica (Mango):-** Mangifera indica is a plant of the Anacardiaceae family. It is 10-20m tall bark grayish brown. Thinly leathery often crowded. Leaves are size changing, usually long or oblong-lanceolate 12-30 cm long 3.5-6.5 cm wide. Pinnate leaflets 20-35 cm long. Densely flowered. Mango is considered as one of the best tropical fruits. Ethnobotanical studies indicated that the plant is widely used to treat diseases. Mangifera indica has active substances, in its composition with high therapeutic potential.



Fig.15 *Mangifera indica*.

**Chemical Constituents:-** anti-inflammatory, antimicrobial, antiviral, antioxidant, immune modulatory, mangiferin, hydroxymangiferin, polyphenols and carotenoids.

**Used part:-** whole plant.

**Uses in therapy:-**Use the mango astringent regularly on your face to get rid of acne, pimples and scars. Helps get a fair skin: Beta-carotene in mangoes has a strong anti aging effect. In addition, Vitamin C in mangoes helps rest down collagen. Mangoes are a great way to reduce dark spots, freckles, acne scars and pigmentation. Applying the pulp of the mango to your skin can help to clear the pores and prevent blackheads and pimples.

**Eclipta prostrata (Bhringraj):-** Bhringraj is found in moist and wet areas waste places and road sides. It is growing up to 30 to 40 cm. in height. Its stems colour is green and purple, its leaves opposite, subsessile, lanceolate-oblong, denticulate, hirsute on both sides. Flowers: white in axillary or terminal head, the female radiated, the bisexual in the centre. Achene 3-angled, slightly flattened. Flowers and fruits appear throughout the year.



Fig.16 *Eclipta prostrata*.

**Chemical Constituents:-** It contains, alkaloids, flavonoids, glycosides, polyacetylenes, triterpenoids. The leaves contain stigmaterol,  $\alpha$ -terthienylmethanol, wedelolactone, demethylwedelolactone and demethylwedelolactone-7-glucoside<sup>43</sup>.

**Used part:-** leaves.

**Uses in therapy:-** Bhringraj is used to treat various skin diseases like eczema, psoriasis, and leprosy. Bhringraj is used for treating skin diseases as well. Bhringraj fights the fungi which causes skin infections. Bhringraj leaves crushed and applying on infected areas, it gives good results.

**Tagetes erecta (Marigold):-** Tagetes is a genus of annual or perennial, mostly herbaceous plants in the sunflower family. Tagetes species vary in size from 0.1 to 2.2 m tall. Most species have pinnate green leaves. Blooms naturally occur in golden, orange, yellow, and white colors, often with maroon highlights.



Fig.17 Tagetes erecta .

**Chemical Constituents:-** thiophenes, flavonoids, carotenoids and triterpenoids. The plant T. erecta has been shown to contain quercetagenin, a glucoside of quercetagenin, phenolics, syringic acid, methyl-3, 5-dihydroxy-4-methoxy.

**Used part:-** Leaves, flowers.

**Uses in therapy:-** Marigold leaves and flowers are used to treat burning urination. Moreover, the cooling effect of this flower is used to treat acne, pimples and sunburns. Leaves of marigold is also used to treat cuts and wounds.

**Rosa ( Rose):-** A rose is a woody perennial flowering plant of the genus Rosa, in the family Rosaceae. There are more than three hundred species. Its flowers vary in shape and size and colour, ranging from white through yellow and red. Rose can be grown up to 5 to 6 feet tall.



Fig.18 Rosa.

**Chemical Constituents:-** citronellol, geraniol, nerol, linalool, farnesol, citral, 2-phenylethanol, carvone, rhodinol, and nonyl aldehyde.

**Used part:-** Flowers.

**Uses in therapy:-** Roses are great for all skin types, it is especially great for dry skin due to its extremely moisturizing properties that can help to soft and smooth skin. Rose contains vitamin A and C which can help, rejuvenate skin and work as anti-aging. It also

helps to control excess oils.

**Catharanthus roseus (Cape periwinkle):-** Cape periwinkle is a flower plant family of Apocynaceae, it is also called bright eyes. Catharanthus roseus is an evergreen subshrub or herbaceous plant growing 1 m (39 in) tall. It is noted for its long flowering period, throughout the year in tropical conditions, and

spring to late autumn, in warm temperate climates.



Fig.19 Catharanthus roseus.

**Chemical Constituents:-** hexadecanoic acid, stearic acid, limonene, geraniol, dotriacontane.

**Used part:-** Leaves, flowers.

**Uses in therapy:-** Cape periwinkle is used to clot bleeding, it is also used to treat insect bites, wasp stings, and eye irritations. It has anti-inflammatory properties which can help with swelling and inflammation.

**Hibiscus rosa-sinensis (Hibiscus):-** Hibiscus is a genus of flowering plants in the mallow family, Malvaceae. The genus is quite large, comprising several hundred species that are native to warm temperate, subtropical and tropical regions throughout the world. It is a bushy, evergreen shrub or small tree growing 2.5-5m.



Fig.20 Hibiscus rosa-sinensis.

**Chemical Constituents:-**tannins, anthraquinones, quinines, phenols, alkaloids, L-ascorbic acid, anthocyanin, Beta-carotene, antioxidant.

**Used part:-** Leaves and flowers.

**Uses in therapy:-**The natural acids present in Hibiscus help to purify your skin by breaking down dead skin and increasing cell turnover, they can even help to control acne breakouts. is often touted to be a miracle flower, which comes with natural anti-ageing properties, which can help improve the skin's elasticity and prevent early signs of ageing naturally. It has natural oil which is used to moisturise skin, it has antioxidant properties that helps to tightening the skin layer.

#### 4. Conclusion

Traditional Ethno-Medicinal Plants plays very important role in the life of human being, as well as animals. These plants are very helpful for the treatment of ailments and diseases. Person who is suffering from skin diseases is not only

disturbed physically and mentally, but also expense lot of money for their cure when these are at critical stage. If these diseases are cured at initial stage then we can save lot of money. If people use traditional medicinal products which is get from these plants, we can't waste our money and time. These plants extract is used direct as well as in the form of herbal drugs, which are cheap with minimum side effects, will be helpful to cure diseases. The present study represent some of traditional medicinal plants which is used by people to cure skin diseases. It is very important to share the knowledge about traditional medicinal plants with people, this could be help in the conservation of these plants. It should be needed to study and documentation of medicinal plants for future generation. There is also need to established herbal drug center for preparation of herbal medicines. It will helps to creates a source of farmers income through cultivation of ethnomedicinal plants, and could be generate employment in the state.

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