

MANGO MAN OF USING MEDICINAL PLANTS IN SKIN DISEASE IN WEST CHAMPARAN DISTRICT, BIHAR

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Abstract: Plant species used in the treatment of skin diseases among the indigenous communities of West Champaran district of Bihar was conducted. Thirty plant species belonging to 29 genera and 22 families were found to be used specifically in the treatment of various 11 skin diseases viz., dandruff, eczema, impetigo, leprosy, parasite, psoriasis, rash, scabies, swellings, tinea cruris and tinea versicularis. The communities use 9 plant species invariably for the treatment of all kinds of skin diseases while 4 species are exclusively used to treat leprosy. *Saraca asoca* plant becomes vulnerable since it is frequently used for the treatment of scabies.

Keywords: Ethnobotany, Ethnomedicine, Medicinal plants, Skin diseases, West Champaran.

Introduction

World Health Organization estimates over 80% of the people in developing countries depend on traditional medicines for their primary health needs. Village communities from various ecosystems use largest proportion of biodiversity for human and veterinary healthcare. Of all different organisms, medicinal plants have been greatly considered by rural communities as they improve the economy of rural people. India's traditional system of medicine is related to richness of herbal plants biodiversity and cultural biodiversity. Indigenous knowledge on natural resources utilization of medicinal plants not exceeding the resilience of the surrounding environment is regarded as an important measure of sustainable plants biodiversity conservation. Without proper documentation of such knowledge, the cultural heritage is loosing and also the exploitation by the patent rights, communities and the countries, who invented the material and the process have been facing shortfall in this regard. When such indigenous knowledge is being lost, people are forced to change their livelihoods often cause severe environmental degradation. An attempt was made to explore the traditional healthcare system of using medicinal plants by the community of West Champaran district for the treatment of various types of skin problems and ailments. West Champaran district (84°21' E and 27°9' N 5228 sq. km.). Forest ecosystems because of its geographical location, stable geological history, equable climate and contains fertile soil. This favours greatly to the farming. A large number of medicinally important plants are found in this region. The climate is favourable for agriculture. The climatic conditions of this area support high plant diversity and regarded as a treasure house of traditional medicinal wisdom. The medicinal plant wealth of this area has not been explored to a desired level. Previously, inventory of medicinal plants of west Champaran district have been made Extensive study in relation to medicinal flora of the area has not been carried out so far and in particular, there is a paucity of information on medicinal plants traditionally used in skin diseases. In view of the above, the study was carried out with an aim to document medicinal plants of west champaran district, used for the treatment of various kinds of skin diseases. The information generated from the study will provide a needful dimension for developing conservation strategy for important medicinal plant species of this region. Exploring the medicinal plants to a desired pace leads to sustainable utilization of plant resources.

Methodology

An ethnobotanical survey for using medicinal plants in using skin treatments at west champaran district. The information on plants used as traditional medicine against skin diseases was gathered an ethnobotanical survey based on interviews with local people involved in traditional herbal medicine practices. Medicinal property of plants was confirmed by similar uses from at least 5 informants. Plant specimens collected from the field with their local names were identified with the help of regional and local floras. The voucher specimens were deposited in the Herbarium of University Department of Botany, B.R.A.B.U. Muzaffarpur Bihar for future reference.

Enumeration

The following plant species were identified for their use in traditional healthcare system against various skin diseases. The enumeration of plants contains botanical name, family name, local name and uses.

Acorus calamus Linn. (Araceae); Vasampu

Uses: Pounded rhizomes along with *Curcuma aromatica* rhizomes and *Azadiracta indica* leaves are applied twice a day, after bathing and before bedtime for one week against eczema.

Aegle marmelos (Linn.) Corr. (Rutaceae); Vilvam

Uses: Fruits crushed with seeds of *Strychnos nux-vomica*, *Pongamia pinnata* and boiled with coconut oil is applied on the affected parts to cure scabies and other similar skin diseases twice a day, till cured.

Anacardium occidentale Linn. (Anacardiaceae); Kollamaram

Uses: Powdered bark mixed with honey is taken orally once a day for six months against leprosy.

Andrographis paniculata paniculata Nees. (Acanthaceae); Nilavembu

Uses: Leaf juice mixed with cow milk is taken orally twice a day for six to eight days to cure tinea cruris.

Argemone mexicana Linn. (Papaveraceae); Premathandu

Uses: Pounded seeds along with rhizomes of *Curcuma aromatica* and *Acorus calamus* made into paste are applied on all kinds of skin diseases twice a day till recovery.

Asparagus racemosus Willd. (Liliaceae); Thannervittankizhangu

Uses: Tuber along with the leaves of *Plumbago indica* made into paste is applied on skin diseases once a day till cured.

Azadiracta indica A. Juss. (Meliaceae); Vembu

Uses: Flowers boiled in gingili oil (*Sesamum indicum*) is applied on head against dandruff once a day in the morning after taking bath till recovery.

Cassia alata Linn. (Fabaceae); Seemai Agathi

Uses: Pounded leaves, coconut oil and bee wax made into paste is applied on the affected parts to cure tinea versicoloris once daily in night before bed time for four days.

Cassia auriculata Linn. (Caesalpiaceae); Avarai

Uses: Dried leaf paste in vinegar is applied on skin diseases once a day till cured.

Clerodendron inerme Gaertn. (Verbenaceae); Changukuppy

Uses: Leaf juice mixed with bee wax, resins of *Vateria indica* and seeds of *Nigella sativa*, made into a paste is kept in a hot water bath and cooled before use. It is applied once a day before bed time till the recovery to cure various skin diseases.

Clitoria ternatea Linn. (Fabaceae); Shankupuspham

Uses: Leaf juice is given orally twice a day for six days to cure scabies.

Corallocarpus epigaeus Hk. f. (Cucurbitaceae); Kurudankizhangu

Uses: Tubers boiled in coconut oil is applied once a day for six months on the affected parts to cure leprosy.

Crinum defixum Ker. (Amaryllidaceae); Vishanarayani

Uses: Pounded bulbs mixed with hot water is given orally twice a day for three days for curing tinea cruris.

Curcuma aromatica Sal. (Zingiberaceae); Kasturimanjal

Uses: Rhizomes and Terminalia chebula seeds made into paste is applied on the affected parts twice a day till the recovery to cure impetigo.

Cynodon dactylon (Linn.) Pers. (Poaceae); Arukampullu

Uses: Pounded leaves boiled in coconut oil is applied once a day till the cure for various kinds of skin diseases.

Datura metel Linn. (Solanaceae); Ummattai

Uses: Leaf juice along with Curcuma aromatica rhizomes made into a paste is applied against swellings for fast relief till the swelling reduces.

Euphorbia hirta Linn. (Euphorbiaceae); Ammanpaccharisi

Uses: Latex is applied against skin parasites twice a day till cured.

Glycyrrhiza glabra Linn. (Fabaceae); Atimaturam

Uses: Paste prepared from pounded stem and Withania somnifera roots is applied on the affected parts once a day for one year to cure leucoderma and other skin diseases.

Hygrophila auriculata (Schum.) Heine. (Acanthaceae); Neermulli

Uses: Dried leaf powder mixed with castor oil is applied twice a day till the recovery on the affected parts to cure skin diseases.

Indigofera aspalathoides Vahl. (Fabaceae) Sivanarvembu

Uses: Powdered bark mixed with coconut oil is applied twice a day for six months on the affected parts to cure leprosy.

Lawsonia inermis Linn. (Lythraceae); Maruthani

Uses: Leaf paste is applied twice a day till it is cured on the affected parts to cure impetigo.

Madhuca longifolia (Koenig) Macbride. (Sapotaceae); Eluppai

Uses: Pounded seeds mixed with leaf extract of Ocimum tenuiflorum are applied on the affected parts twice a day to cure skin diseases.

Ocimum tenuiflorum Linn. (Lamiaceae); Tulaci

Uses: Leaves pounded with Curcuma aromatica rhizomes are applied on the affected parts once a day in the night before bed times to cure tinea versicoloris.

Phyla nodiflora (Linn.) Greene. (Verbenaceae); Poduthalai

Uses: Paste prepared from leaf juice mixed with equal volume of gingili oil and boiled is applied twice a week on head to remove dandruff.

Piper betle Linn. (Piperaceae); Vettilai

Uses: Leaves pounded with *Allium sativum* bulbs is applied on the affected parts once a day in the morning after bath to cure tinea versicoloris.

Pongamia pinnata (Linn.) Pierre. (Fabaceae); Punkumaram

Uses: Crushed bark paste boiled in gingili oil is applied on the affected parts twice a day for four days to cure rash.

Saraca asoca (Roxb.) de Wilde. (Caesalpiniaceae); Asogam

Uses: Paste prepared from dried flowers boiled with coconut oil and then cooled is applied thrice a day till cured with the help of cock feather against scabies.

Terminalia bellerica (Gaertn.) Roxb. (Combretaceae); Tanrikkai

Uses: Paste prepared from seeds pounded with the seeds of *Terminalia chebula* and *Quercus infectoria* and mixed with coconut oil is applied twice a day against rash.

Trichosanthes lobata Roxb. (Cucurbitaceae); Peppudal

Uses: Whole plant paste is applied once a day for one year on the affected parts to cure leprosy.

Wrightia tinctoria (Roxb.) R. Br. (Apocynaceae); Veppalai

Uses: Pounded leaves mixed with coconut oil are applied twice a day against psoriasis.

Results and discussion

During the investigation, it was found that 30 plant species are used as herbal medicine for the treatment of skin diseases. Of 29 genera and 22 families of angiosperms, 12 species were trees, 6 shrubs, 15 herbs and 5 climbers. Fabaceae with 5 species ranked first, and was the dominant family followed by Acanthaceae, Caesalpiniaceae, Cucurbitaceae and Verbenaceae with two species each. Majority of families (17) were monospecific. Nine species namely, *Aegle marmelos*, *Argemone mexicana*, *Asparagus racemosus*, *Cassia auriculata*, *Clerodendron inerme*, *Cynodon dactylon*, *Glycorrhiza glabra*, *Hygrophila auriculata* and *Madhuca longifolia* are used to cure various kinds of skin diseases. *Saraca asoca* was vulnerable species and people use powder of dried flower to cure scabies. Plants such as *Asparagus racemosus*, *Azadiracta indica*, *Argemone mexicana* and *Datura metel* are used for similar purposes in Uttar Pradesh, while *Wrightia tinctoria* is extensively used for psoriasis. Anthropogenic disturbances such as unsustainable harvesting, cultivation practices and overexploitation lead to threat to such potential genetic resources. Such Anthropogenic pressures lead medicinal plants to decline drastically in its natural condition. Removal of bark from *Anacardium occidentale* is prone to rhinoceros beetle (*Oryctes rhinoceros*) attack and resulted in severe mortality rate of the plants. The flower of *Saraca asoca* is extensively used for skin diseases among the indigenous people. International Union for Conservation of Nature (IUCN) has red listed the species under the threat category globally vulnerable.

Conclusion

The findings of the study envisage that the herbal medicine have great potentiality to cure different kinds of skin diseases. The indigenous rural community depends on traditional healthcare system. About 80% of human population in India is using herbal medicine to cure different kinds of diseases. The medicinal wealth of the region is not yet explored desirably. There is an ample scope of such kind of studies to gather the information on medicinal plants of West Champaran district. In addition to this, the ecologists should also pay much attention towards research studies on conservation status and population behaviour of such species. Undoubtedly, this will help in developing an appropriate strategy for conservation of important plant species of the region, and also to preserve genetic diversity.

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