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## Indigenous Knowledge of using Medicinal Plants in Treating Skin Diseases in Panchmarhi Biosphere Reserve, Madhya Pradesh, India

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**Abstract:** A large number of medicinal plants are found in Panchmarhi biosphere reserve of Madhya Pradesh. The plant diversity of Panchmarhi is quite rich and the people especially the tribals depend on plants for procuring household remedies. Various plant species used in the treatment of skin diseases like leprosy, scabies, rash, wound, psoriasis, swelling, eczema, dandruff are found in this region. A large number of plants/plant extracts / decoctions or pastes are being used since ages as home remedies by layman and traditional medicinal practitioners in India for treatment of cuts, wounds and burns. This work provides ethno medicinal information on 29 plant species belonging to 20 families, documented by interrogating the traditional practitioners. The scientific names of the concerned plants, their family, vernacular names, parts used, disease cured by these plants all have been discussed in this paper.

**Keywords:** Skin diseases, Traditional medicines, Panchmarhi biosphere reserve, Herbal healer.

### INTRODUCTION

India has a vast and diverse depository of medicinal plants and perhaps the world's most sophisticated indigenous medical heritage, with an unbroken tradition coming down across millennia. The wealth is not only in terms of the number of unique species documented so far for their medicinal use but also the depth of the traditional knowledge base about the use for human, veterinary health care and crop protection. Ved and Goraya<sup>1</sup> investigated that folk healers in remote places use local plants for treating and preventing ailments and are generally considered as healthcare resource in rural places inaccessible

to modern health care services. W.H.O. has estimated that at least 80% of the world population relies on traditional medicine to meet their primary health care needs. Bannerman<sup>2</sup> and W.H.O.<sup>3</sup> have revealed that ethno medicines have received renewed global attention of scientists in India and elsewhere in recent past because of their local acceptability and providing leads to the discovery of new drugs of plant origin. Cowan<sup>4</sup> as well as Pushpangadan and Atal<sup>5</sup> observed that plant extracts used in ethno medical treatments are enjoying great popularity, however, lacks scientific validation. It has been estimated that folk healers in India use approximately about 2500 species of medicinal plants out of which more than 100 species serve as regular sources of medicine. Pei<sup>6</sup> as well as Jain and Patole<sup>7</sup> stated that use of traditional medicine has changed dramatically over the years, due to its affordability, availability, accessibility and acceptability. W.H.O.<sup>8</sup> found skin diseases are of common occurrence among the rural masses due to poor hygienic conditions, poor sanitation facility and contaminated water. Spiewak<sup>9</sup> found that traditional herbal medicines used by different communities helps to heal about 34% of occupational skin diseases. They are safe, effective and inexpensive and in many cases, the only method of medication. Panchmarhi biosphere reserve is botanically rich in India. Pachmarhi is a hill station in Madhya Pradesh, the state of central India, also known for the Pachmarhi Cantonment. It is widely known as "Satpura ki Rani" (Queen of Satpura), situated at a height of 1100 m in a valley of the Satpura Range in Hoshangabad district. The highest point in the central India region and the Vindhya and Satpura range; Dhupgarh at 1,350 m is located here. The total area of Pachmarhi Biosphere Reserve is 4981.72 Km<sup>2</sup>. It is located at Longitude 22° 11' to 22° 50' N and Latitude 77° 47' to 78° 52'E. It covers parts of three civil districts, viz., Hoshangabad (59.55%), Chhindwara (29.19%) and Betul (11.26%). It includes three wildlife conservation units viz. Bori Sanctuary (485.72 Km<sup>2</sup>), Satpura National Park (524.37 Km<sup>2</sup>) and Pachmarhi Sanctuary (491.63 Km<sup>2</sup>). These all together has also been notified as Satpura Tiger Reserve (1501.72 Km<sup>2</sup>). Anonymous,<sup>10</sup> available literature on Madhya Pradesh on traditional health care shows several works on ethno medicine such Oommachan *et al*<sup>11</sup>, Bhalla *et al*<sup>12</sup>, Jain<sup>13</sup>, Sikarwar<sup>14</sup> Samvatsar and Diwanji<sup>15</sup>. The present study is subjected to scientific study mainly focuses on use of herbal plants in cure of skin by Bhil, Bhilala, Gond and Saharia tribes. This reserve is best known for its rich forests. A part of the reserve vegetation has been studied by C.P. Kala<sup>16</sup>, especially with respect to their indigenous uses and conservation perspectives. The reserve has several sacred groves, which are rich in plant genetic diversity and are composed of many ethno botanically useful species, including wild edible fruits and medicinal plants.

## MATERIALS AND METHODS

Regular field trips were conducted during the period from January 2011 - January 2012- in different places of Panchmarhi biosphere reserve. The investigation carried out where the population distribution of the investigated communities was dense. During the trips, contacts made with the village heads, herbal practitioners as well as elderly men and women of the respective communities. Prior informed consent obtained from the village heads and from the participants in the study. Information on herbal medication gathered through conversations, interviews and discussion. For this, a questionnaire designed for interviewing the participants of different communities. During the fieldwork, repeated verification of data by different informants and at different places carried out. Only the specific and reliable information crosschecked with different informants and at different places incorporated in the present study. Only information that obtained from at least two participants has been documented here. The information gathered was also cross checked with available local literature "Oomachan and C. P. Kala, Chandra Prakash<sup>16</sup>. The different preparations of plant parts are prepared and used by traditional medicinal man against cure of a particular disease. The same described as follows: -

1. *Acaci Chundra* (Roxb.ex Rott.) Willd.(Leguminosae)Hindi name)- Lal Khair, Use- Steam bark decoction taken orally in 2-3 spoonfuls thrice a day for now many days for skin infection

2. *Acalypha Ciliata* (Euphorbiaceae) Hindi name- Kuppi Use-Leaves ground with turmeric and the paste applied to affected area.
3. *Acalypha Ciliata* (Acantheaceae) Habit; Leaf Hindi Name Adosa, Arusha, Rus, Bansa, Use- Leprosy .
4. *Allium sativum L.* (Liliaceae) Habit: Herb Hindi Name -Lahsoon use-1.Extracted juice from the bulb is applied to athletes.2. The cloves, mixed with some salt are pounded and the paste is applied to treat ringworm. After the application of the medicine for 2-3 times, a layer is formed which is removed and the treatment is continued for about 2 weeks.
5. *Amaranthus Spinousus L.* (Amaranthaceae) Hindi Name - Chulai use-The paste of the leaf juice with a pinch of turmeric powder is applied on the face twice daily for curing pimples.
6. *Arachis hypogeal L.,* ( Fabaceae ) Hindi Name - Moong phali Use-Mashed peanut with butter and honey is used as remedy of dry skin
7. *Argemone maxicana Linn* (Papaveraceae) Hindi name-,Satyanashi Use-Mexican Prickly Poppy is also known Peeli Kateri or Peela Dhatura use- The cotton is rolled over skin parts with problems such as eczema, wounds etc.
8. *Aloe vera* (Liliaceae) Hindi Name - Gheekumari Use- ethyl acetate, ethanol & aqueous extracts Leprosy.
9. *Azadirachta indica Juss* (Meliaceae) Hindi name – Neem (Meliaceae) The mixture of leaves, barks and coconut oil applied for all skin disease.
10. *Barberi S Vulgaris* (Berberidaceae) Hindi Name Use-Whole plant, chloroform and methanol extract General infectious diseases, antiseptic, disinfectant.
11. *Beta Vulgaris* (Chenopodiaceae) Hindi Name Use- Leaf: aqueous extract Burns, inflammations
12. *Brassica oleracea L.,* (Brassicaceae) Hindi Name – Sarso, Use-Decoction of the leaves is used to treat an open wound on skin.
13. *Brassica Nigra* (Brassicaceae ) Hindi Name- Use-Leaf, Flower: aqueous extract Leprosy.
14. *Cassia tora L.* (Legumenacea) Hindi Name: Charota, Chakvad, Chakavat. Use-Seeds ground with butter milk and the paste applied on itching areas till cure.
15. *Cassia fistula* (Caesalpiaceae) Hindi Name- Amaltash Use-Pound the leaves. Strain, and collect the juice. Application Wash the affected areas of the skin with clean water. Apply the juice thinly on the affected areas in the morning and night for at least 7 days. Safety precautions. Apply the juice up to 1 cm from the edge of the affected area of the skin, to prevent the infection from spreading.
16. *Curculigo orchioideis* (Hypozidaceae) Hindi Name-Kali musali-Use- Rhizome and root paste applied on effected areas till cure
17. *Curcuma domesticate* (Zingiberacea) Hindi Name-Haldi Use-Leaf: aqueous extract Leprosy.
18. *Daucus carota.*( Apiaceae ) Hindi Name -Gaazar Use- Leaf: for skin infections.
19. *Desmodium gangeticum (L.) DC.* (Fabaceae) Hindi Name-Pivari Use-Fresh leaf Juice is applied on a affected part in scabies and ringworm.
20. *Dichrostachys cinerea (L)* Wt. et Arn (Leguminaceae) Hindi name- Kalahari, Christmas tree. Use-Root paste applied externally till cure.
21. *Euphorbia hirta* ( Euphorbiaceae) Hindi name- Gular Use: Bark powder is used externally in case of pimples, itches, scabies and wounds.

22. *Lawsonia inermis* L.(Lythraceae)- Hindi Name - Henna, Mehendi Use--Stem bark paste.
23. *Magnifera indica* L., (Anacardaceae) Hindi name - Aam Use- Green leaves are pounded in water and the juice applied to treat scabies.
24. *Ocimum basilicum* (Lamiaceae ) Hindi Name - Babuyitulsi Use-1. Whole plant: chloroform extract General infectious diseases, antiseptic, 2. The juice of fresh leaf is beneficial in the treatment of ringworm , insect bites and skin eruptions .Essential oil present in the plant possesses antibacterial and anti fungal activities.
25. *Ocimum sanctum* (Lamiaceae) Hindi Name- Tulsi, Use - Leaf extract use for Leprosy and leucoderma
26. *Psidium Guajava* ( Myrtaceae )Hindi Name- Amrud, Saphed saphari, Lal saphari Use-For cuts and wounds Method of preparation Pound and crush the leaves.Application Wash the cut or wound with clean water. Apply the pounded leaves to the cut with light pressure and wrap with the bandage. Change the bandage as needed. Safety precautions- Observe cleanliness at all times.
27. *Sphae ranthus* (Compositae) Hindi Name- Gorakhmundi Use-Leaf ,Flower and seeds Scabies Skin disease .
28. *Syzygium Cumini* (Myrtaceae) Hindi Name-Jamun Use- Leaf, Skin infection , Burns.
29. *Woodfordia Fruticosa* (L.) Kurz.(, Lythraceae ) Hindi Name-Dhan, Dhawa. Use: 1 Stems are pounded and mixed with curd and applied to treat scabies. 2. Paste of fresh leaves is used to cure many skins diseases.

## RESULT AND DISCUSSION

During the investigation, it was found that 29 plant species belonging 20 families are used as a medicinal plant for the treatment of skin diseases. The world health organization estimates that about 80% of the population of most developing countries relies on herbal medicines for their primary health care need. The finding of the study reveals that the herbal medicine has great potentiality to care different kinds of skin diseases. The indigenous rural community depends on traditional health care system. The four species namely *Acalyph ciliat*, *Acalyphaciliata* *Curcuma*, *Domesticated Sphae ranthus* and *Syzygiu cumini* are used to cure various kinds of skin diseases. *Psidium guajava* is very useful for cut, wounds. The results of the present study revealed that wild plants and their parts are widely used for skin diseases in the study area of Panchamarhi biosphere reserve. Local people have remarkable detailed knowledge of species identity and characteristics. However, when questioned about the changing status of medicinal plants, the villagers listed some important species such as *Acalypha ciliata* , *Acalypha ciliata*, *Ba rberis vulgaris* and *Desmodium gangeticum*, which have declined in abundance during the last decade due to land use change, extensive grazing of domestic animals and over-exploitation of useful species.

## CONCLUSION

The indigenous rural community depends on traditional health care system About 80%of human population in India is using herbal medicine to cure different kind of disease .there is an ample scope of such kind of studies to gather the information on medicinal plants of Panchmarhi biosphere reserve of Madhya Pradesh. In addition to this the ecologist should also pay much attention towards research studies on conservation status and population undoubtedly, this will help in developing an appropriate strategy for conservation of important plant species of the Panchmarhi region and also to preserve genetic diversity.

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