

VOLUME 10 ISSUE 2 2024

ISSN 2454 – 3055



**INTERNATIONAL
JOURNAL OF
ZOOLOGICAL
INVESTIGATIONS**

***Forum for Biological and
Environmental Sciences***

Published by Saran Publications, India



International Journal of Zoological Investigations

Contents available at Journals Home Page: www.ijzi.net

Editor-in-Chief: Prof. Ajai Kumar Srivastav

Published by: Saran Publications, Gorakhpur, India



ISSN: 2454-3055

Indigenous Herbal Medicines used by Tribal Communities Across the Satpuda Mountain Ranges, India

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Received: 11th February, 2024; **Accepted:** 5th June, 2024; **Published online:** 26th August, 2024

<https://doi.org/10.33745/ijzi.2024.v10i02.047>

Abstract: The Satpuda Mountain Ranges, which span over central India, are home to a wealth of traditional wisdom in addition to being an epitome of biodiversity. For ages, the abundant flora in these mountains has provided healthcare to the tribal inhabitants living there. This article highlights the value of traditional healing of 98 medicinal plants in the Satpuda region which are used in indigenous herbal remedies that are ingrained in these tribes' cultural practices.

Keywords: Indigenous Herbal Medicines, Tribal Communities, Ethnobotany, Biodiversity, Medicinal plants

Citation: Mathew Dinu: Indigenous herbal medicines used by tribal communities across the Satpuda Mountain Ranges, India. Intern. J. Zool. Invest. 10(2): 501-514, 2024.

<https://doi.org/10.33745/ijzi.2024.v10i02.047>



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Introduction

India has a large tribal population that has existed for eons, and these people have a rich traditional knowledge system that addresses many important topics, including the health of tribal groups (Debroy *et al.*, 2023). The indigenous people obtain their healing from their own herbal remedies, local practitioners and their traditional knowledge and comprehension of nature (Kandari *et al.*, 2012). Tribal cultures' usage of herbal remedies is influenced by their unique socio-cultural customs, religious convictions, support for customary knowledge and reliance on traditional medical practitioners. These people have a tight interaction with their ambient environment and

ecology essentially relying on it for their primary health care system because they reside in more remote locations than contemporary facilities. It has been suggested that records of traditional knowledge about medicinal plants can help in the development of new medications for the benefit of humankind. Medicinal plants serve as the foundation for the primary healthcare system in many communities. Approximately 80% of traditional medicines used in basic care are derived from plants (Ignacimuthu *et al.*, 2006; Ramawat, 2009; Panda *et al.*, 2011).

According to Indian definitions, a tribe is a group that has a customary area, its own political

system, a unique name, strong kinship ties, no access to technology, a shared language, an inflexible tendency toward religion and belief and a low economic status (Jaiswal, 2020). Some of the other traits that dominate among the tribes are functional independence, homogeneity, primitive resource exploitation techniques, economic backwardness, their own rituals and beliefs, social-political value, rich culture and tradition and least desire to change. The present review is an attempt to document the medicinal plants commonly used by the tribal communities across the Satpuda Mountain Ranges in India. The Satpuda Mountain Ranges, which span over central India, are home to a wealth of traditional wisdom in addition to being an epitome of biodiversity. For ages, the abundant flora in these mountains has provided healthcare to the tribal inhabitants living there.

Traditional Healing Wisdom

In the context of the Satpuda Mountain Ranges, traditional healing wisdom is a cornerstone of the cultural heritage of the indigenous tribal communities residing in this region (Patil *et al.*, 2015). Passed down through generations, this ancient knowledge represents a holistic approach to health and well-being that is deeply rooted in the interconnectedness of nature, spirituality and the human body. Tribal communities in the Satpuda Mountains have cultivated a profound understanding of the local flora's medicinal properties (Bagul, 2013 a, b). Through keen observation and experiential learning, they have identified a myriad of plants with therapeutic qualities, each serving a unique purpose in their traditional pharmacopeia.

Traditional healers, play a crucial role in preserving and transmitting this valuable knowledge where these healers are not only repositories of herbal lore but also spiritual guides, incorporating rituals and prayers into their healing practices. Their wisdom extends beyond merely treating physical ailments; it encompasses the holistic well-being of individuals, considering mental, emotional and spiritual dimensions. The

approach to healing is not reductionist but rather holistic. Traditional healing wisdom acknowledges the intricate web of relationships between humans and their environment. It views illness not merely as a physical ailment but as a manifestation of imbalances within the individual or the community. Thus, the remedies prescribed often include not only herbal concoctions but also lifestyle adjustments, dietary recommendations and spiritual practices aimed at restoring harmony.

In the face of modernization, the erosion of traditional knowledge poses a challenge. However, there is a growing recognition of the value of traditional healing wisdom in contemporary healthcare. Efforts to document, preserve and integrate this knowledge into broader healthcare systems can lead to a more inclusive approach that combines the strengths of traditional practices with modern medical advancements. In essence, traditional healing wisdom in the Satpuda Mountains encapsulates a profound philosophy of health that goes beyond the physical, embracing the spiritual and environmental dimensions of well-being. The tenacity of this tradition not only improves community health but also provides insightful information for a more comprehensive and long-term global approach to healthcare. The Satpuda Mountains' indigenous groups have developed a deep awareness of the therapeutic qualities of the area's flora. These indigenous communities' traditional wisdom, which has been passed down through the years, is a vital component of their cultural identity. Table 1 depicts list of indigenous herbal medicines used by tribal communities across the Satpuda Mountain Ranges.

Treatment of ailments

In the Satpuda region, traditional herbal medicines are used to treat a variety of ailments. Tribes use plant extracts and mixtures to cure fevers, respiratory disorders, gastrointestinal difficulties, skin conditions and many more (Chaudhari *et al.*, 2022). Traditional medicine takes a holistic approach, taking into account not just the physical

Table 1: List of indigenous herbal medicines used by tribal communities across the Satpuda Mountain Ranges

S. No.	Botanical Name	Family	Plant part used	Name of Diseases	Preparation	Application
1.	<i>Abrus precatorius</i> L.	Fabaceae	Root	Swelling	Crush the roots, prepare paste and mix it with mustard oil	Apply it daily once on the swelling for about one month
			Seed	Children Stomach disease	Crush the seeds and prepare powder	Use a pinch of powder for 4-5 days
2.	<i>Acacia chundra</i> Wild.	Mimosaceae	Root	Veterinary tonic	Dug out the roots and clean	Mix the pieces of roots into the fodder to increase lactation.
			Bark	Fracture	Prepare the decoction of bark	Take it orally till it heals
3.	<i>Acacia nilotica</i> L. Del.	Mimosaceae	Bark	Toothache	Crush the bark with little salt and prepare powder	Use the powder daily to clean the teeth
			Twig	Toothache	Fresh twig	Crush the twig with tooth and clean it
4.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Root	Toothache	Dry roots powder mix with salt and filter	Use the powder daily to clean the teeth
			Leaf	Headache	Crush the leaves and extract juice	Few drops of juice put into the nose
			Leaf	Fistula	The leaves are crushed and a paste prepared	Leaves paste applied externally at night until relief is felt
5.	<i>Aegle marmelos</i> L. Correa ex.Roxb.	Rutaceae	Root	Migraine	Crush the roots and prepare a paste	Apply on both the eyes at night for 4-5 days
			Leaf	Acidity	Crush fifteen leaves and mix into sugar	Use the mixture for about 42 days.
			Fruit	Asthma	Mix pulp of one fruit with a small piece of <i>Zingiber officinale</i> and add equivalent amount of sugar to the mixture	This mixture is given twice a day till cured
6	<i>Aloe vera</i> L.	Liliaceae	Leaf	Burn wounds	Tear the fresh leaves	Apply torn leaves on burn wounds
7.	<i>Allium cepa</i> L.	Liliaceae	Bulb	Ear ache	Crush half bulb and extract juice	Put 1-3 drops of juice in the ear for 3 days
				Skin disease	Juice and Mustard oil	Apply/rub on infected skin
				Insect bite	Crush half bulb and extract juice	Apply on the region to relief
				Swelling	Mix chopped onion with turmeric powder	Apply on the swelling up to one week
8.	<i>Allium</i>	Liliaceae	Bulb	Ring worm	Crush 4-5 flakes	Apply the paste 2 times

	<i>sativum</i> L.				and prepare paste	per day
				Ear ache and pus	Crush 3 flakes, cook along with a spoon of sesame oil and cool	Put 3 drops of oil into the ear two times per day for 4-5 days.
				Cough cold	Put three flakes in a clean cup containing heated/boiled water	Take twice in a day for seven days
				Poor digestion	Grind 5 flakes, 2 green chilies add little amount of salt make a paste and then fry with a spoon of sesame oil	Take 3 spoons with meal two times in a day for about 7 days.
9.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Leaves	Threatened abortion	Juice obtained from crushing leaves one teaspoonful add a quarter teaspoonful of turmeric mix well and prepare pills of a size of seeds of Arhar	Take two pills twice/day for five days before meals.
10.	<i>Annona squamosa</i> L.	Annonaceae	Root	Dysentery	Obtain Filtrate boiling crushed roots	Use until cure
			Leaf	Lice	Leaves are used as poultice over boils and ulcers and to kill lice also	Leaf powder apply on the hair
			Unripe fruit	Dysentery	Dried unripe fruit powder mix with gram floor	Use the powder for two weeks
11.	<i>Asparagus racemosus</i> Wild.	Liliaceae	Root	Dysentery	Use roots boiled in the milk as appetizer	Take two times per day for 2-3 days.
				Weakness	Extract of boiled roots in water	Take up to two weeks
				Irregular menstruation	Crush dry roots and prepare the powder	Mix a teaspoon full of powder with the milk and take 2 times per day
12.	<i>Azadirachta indica</i> Juss.	Meliaceae	Bark	Stomachache	A cup of extract of inner bark stem	Take it twice for three days.
			Leaf	Hairfall & dandruff	Crush the leaves and extract the juice	Apply the juice on hairs and wash for a week
13.	<i>Bacopa monnieri</i> L. Wettst.	Scrophulariaceae	Plant	Fever	Crush the plant, prepare paste and mix in a cup of water	Take it two times for three days.
			Leaf	Blood	Fresh 5 g of fresh	Chew the leaves for a

				pressure	leaves	week.
14.	<i>Baliospermum raziana</i> Keshava Murthy and Yoganasmh an Dathi	Euphorbiaceae	Root	Constipation	1-2 roots are crushed and soaked in a cup of water for 4-5 h	This water is administered as a single dose
15.	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Leaf	Headache	Fresh leaves	Eat 4-10 leaves for five days.
				Fever		Chew ten leaves until cured
16.	<i>Bombax ceiba</i> L.	Bombacaceae	Bark	Leucorrhoea	Bark of 4-5 cm is ground to powder every time	Bark powder is mixed in a cup of water and administered twice a day for 7 days
			Leaf	Body pain	Few leaves are crushed and soaked in water	The water extract is added to hot water and bath is given to the patient. It is repeated for 2-3 days
17.	<i>Brassica juncea</i> L. Czern.	Brassicaceae	Seed	Headache	Mix half teaspoon rai powder and old ghee	Apply the paste on forehead in the evening for three days
				Ringworm	Mix one gram of rai powder into two teaspoons of ghee	Apply the paste at night for a week.
18.	<i>Butea monosperma</i> (Lam) Taub.	Fabaceae	Bark	Swelling	Crush the bark and prepare paste	Apply the paste on swellings.
			Flower	Urinary stone	Soak a teaspoonful of dry flower powder in a cup of water for ten hours and filter	Take it twice for seven days.
				Fever	Soak half kg of flowers in three glass of water for one hour, then crush it and extract juice	Apply the juice on body for one hour and then wash it.
19.	<i>Buchanania lanzan</i> Spreng.	Anacardiaceae	Gum		Gum of the tree is washed with water and cut into small pieces.	Apply these pieces on the affected tooth overnight to cure toothache
20.	<i>Caesalpinia bonduc</i> L. Roxb.	Caesalpiniaceae	Seed	Stomach ache	Rub the seed and prepare a fine paste	Apply the paste two times for five days
				Malaria	Crush the seeds in water	Use it for seven to ten days
21.	<i>Calotropis gigantea</i> L. Ait.,ex R.Br.	Asclepiadaceae	Flower	Diabetes	Fresh flowers are plucked early in the morning	7 flowers are eaten every morning for 21 days
22.	<i>Calotropis</i>	Asclepiadaceae	Flower	Asthma	Prepare the powder	Take it with water

	<i>procera</i> L. R.Br.		Latex		of dry flowers	
				Toothache	Extract the latex and mix a small amount of salt in it.	Use it to clean the teeth until cure.
				Foot sole	Extract the latex from the plant/part	Apply 3-5 drops of latex to remove thorn/spine easily from the foot.
23.	<i>Carica papaya</i> L.	Caricaceae	Latex	Lag at anus	Extract two teaspoonful latex	Apply it two times for ten days
				Toothache	Extract the latex	Use it to clean the tooth for a week
24.	<i>Cassia tora</i> L.	Caesalpinaceae	Seeds	Skin diseases	Seeds are finely powdered and mixed in coconut oil to prepare a paste	This paste is applied on affected part till cured
25.	<i>Cassine albens</i> Retz.	Celastraceae	Bark	Psychosomatic disorders	4-5 cm piece of bark is crushed and soaked in a cup of water overnight	This cup of water is given as a single dose every day for 9 days
26.	<i>Celastrus paniculatus</i> Willd.	Celastraceae	Seeds	Paralysis	Seeds are boiled and then crushed to obtain oil	This oil is applied on paralyzed parts in the morning and evening. This oil is also taken orally 2 ml each in the morning
27.	<i>Celosia argentea</i> L.	Amaranthaceae	Leaf	Constipation	250 leaves are fried and curry is prepared	The curry is eaten in excess at a time
					7-9 cm piece of root is crushed and soaked in half glass of water for 4-5 h.	This water is administered to the patient once a day for 2 days
28.	<i>Cicer arietinum</i> L.	Faabaceae	Seed	Pimples	Crush the seeds and prepare paste	Apply it on face at night for ten minutes
29.	<i>Cinnamomum zeylanicum</i>	Lauraceae	Bark	Stomach ache	Soak two inch bark in one cup of water	Take it twice for three days
				Fever	Place two inch bark and two black pepper in a cup of water and boil	Take it at evening only for three days
31.	<i>Citrus aurantifolia</i> (Christm) Sw.	Rutaceae	Fruit	Cough	Prepare a cup of black tea and add two drops of citrus juice to it	Take it twice for a week.
32.	<i>Commelina benghalensis</i> L.	Commelinaceae	Rppt	Epilepsy	20 g powder of roots is mixed with the equal amount of jaggery and small sized pills are prepared	Two pills in a day one in the morning and one in the evening for 6-7 days in case of adults and one pill in a day in case of children and women
33.	<i>Coriandrum sativum</i> L.	Apiaceae	Seed	Urinary stone	Mix two teaspoonful coriander powder in a glass of	Take it for one month

					milk	
				Stomach ache	Mix 1 g of coriander and cumin powder with sugar	Take it for a week.
34.	<i>Curculigo orchoides</i> Gaertn.	Hypoxidaceae	Tuber	Gynaecological disorders	5-7 cm of tuber is dried and powdered	Powdered tuber is administered with a cup of milk twice a day for days
35.	<i>Curcuma longa</i> L.	Zingiberaceae	Rhizome	Diabetes	Mix a teaspoon full of turmeric powder in a glass of milk	Take it in the morning until cure
				Pimples	Rub the nutmeg, mix with one teaspoonful turmeric powder and two spoons of milk	Apply the paste on the face in the evening for a week.
36.	<i>Curcuma inodora</i> Blatt.	Zingiberaceae	Rhizome	Psychosomatic disorders	A small piece of rhizome is rubbed on stone or soaked in a cup of water for 4-5 h	This cup of water is administered once a day for 2-3 days
				Constipation	About 2.5 cm piece of rhizome is crushed and soaked in half glass of water	This water is administered as a single dose
37.	<i>Cuscuta reflexa</i> L.	Cuscutaceae	Stem	Fever	Cut the stem into small pieces, put it into a glass of water, boil and cool	Take it until cure
38.	<i>Cymbopogon martinii</i> Wats.	Poaceae	Root	Fever	Place the roots on fire coals, prepare a tent over the patient and allow the fumes pass over and around	Do the fumigation only once.
			Leaf	Fever	Put three leaves in one cup of water, boil and cool	Take only one cup daily
			Plant	Joint pain	Cut the plant into small bits, add water and carry out distillation	Use the distillate to massage the joints.
39.	<i>Cynodon dactylon</i> L. Pers.	Poaceae	Plant	Wound	Crush the plant with water and prepare a bandage	Apply the bandage on wound two times per day
				Skin disease	Extract one cup of plant juice and add two spoons of citrus juice and coconut oil	Apply on the skin for one month
41.	<i>Cyperus rotundus</i> L.	Cyperaceae	Rhizome	Lag at anus	Rub the rhizome and prepare paste	Apply the paste for couple of weeks.
				Stomach ache	Take out the rhizomes	Eat the rhizome for a week.
42.	<i>Daucus</i>	Apiaceae	Seeds	Menstrual pain	70 g seeds are	5 g seed powder is

	<i>carota</i> L. var. <i>sativa</i> DC				ground to powder	given to women twice a day for 14 days from the 4 th day of menstruation
43.	<i>Datura innoxia</i> Mill.	Solanaceae	Leaf	Tumor Pimples	Crush the leaves and prepare a fine paste	Apply the paste twice for a week
				Scabies	Burn the fruits and mix the ash into the coconut oil	
44.	<i>Delonix elata</i> (L.) Gamble	Caesalpiniaceae	Twig	Toothache	Fresh twig	Chew the twig and use to clean the tooth
45.			Leaf	Jaundice	Extract half cup of leaf juice and mix in a glass of water	Take half glass of juice twice for a week.
46.	<i>Desmodium gangeticum</i> L. DC.	Fabaceae	Root	Toothache		Small pieces of root are chewed for about 20 min to cure toothache.
47.	<i>Desmostachya bipinnata</i> L. Stapf	Poaceae	Root	Toothache	About 20 g of root powder boiled with 50 ml water, the liquid is reduced to its quarter volume	Applied to cure toothache and swelling of gums.
48.	<i>Eclipta alba</i> L. Hassk.	Asteraceae	Leaf	Menorrhagia	4-5 leaves are ground to powder	Powdered leaves are administered with a cup of water as a single dose for 2 days.
49.	<i>Emilia sonchifolia</i> L. DC.	Asteraceae	Leaf	Toothache	Juice of leaves	Applied to treat toothache
50.	<i>Enicostemma axillare</i> (Lum) Raynal	Gentianaceae	Root	Fever	Crush the roots and put it in a glass of water for 10 min	Take it in the evening for five days.
51.	<i>Ensete superbum</i> Roxb.	Musaceae	Seeds	Psychosomatic disorders	Nine seeds are powdered every time	Powder of seeds is given early in the morning
			Fresh tender peduncle	Kidney stone	Fresh tender peduncle is cut and used	About half foot peduncle is eaten raw.
			Seeds	Dog bite	Few seeds are powdered	A spoonful powder is taken with glass of water early in the morning for 7 days
52.	<i>Eranthemum nervosum</i> (Vahl.) R.Br.	Acanthaceae	Roots	Gonorrhoea	2-3 roots are crushed and soaked in a cup of water and kept overnight	This cup of water is given to patient in the morning for 2-3 days
53.	<i>Ficus racemosa</i> L.	Moraceae	Leaf	Diabetes	Extract half cup of leaf juice and mix honey to it	Take it for about one month
54.	<i>Ficus benghalensis</i> L.	Moraceae	Leaf	Abscess	Warm the two leaves and prepare bandage	Apply the bandage twice until cure
				Stomach	Extract a cup of leaf	Take it two times for a

				warm	juice and add a pinch of salt to it	week.
56.	<i>Ficus religiosa</i> L.	Moraceae	Bark	Jaundice	Mix a cup of bark juice and two cups of water	Take a cup of mixture twice for a week.
57.	<i>Gymnema sylvestris</i> (Ritz.) R. Br.	Asclepiadaceae	Leaf	Diabetes	Fresh leaves are plucked early in the morning	One leaf is eaten as such in the morning for 5 days
58.	<i>Hardwickia binata</i> Roxb.	Caesalpiniaceae	Fruit	Stomach worm	Two teaspoonful ajawan crushed and kept in one cup warm water.	One cup is taken in the morning and evening for seven days.
59.	<i>Helianthus annuus</i> L.	Compositae	Plump	Blood cholesterol	Take out plump	Daily eat it early in the morning only for one to two weeks.
60.	<i>Hibiscus cannabinus</i> L.	Malvaceae	Root	Snake bite	Crush a fistful roots and soak in one glass of water for 10 min	Take it after every half an hour until the patient vomits.
61.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Flower	Hair problem	Crush the flowers and boil it in water	Apply it on the hair for sometime
				Weakness	Collect the flowers	Eat it daily until cure
62.	<i>Hibiscus sabdariffa</i> L.	Malvaceae	Sepals	Food poisoning	A few sepals are boiled in a glass of water	The infusion of sepals is given to the patient
63.	<i>Jatropha curcas</i> L.	Euphorbiaceae	Stem	Pyorrhea and toothache.	Small stem is used as toothbrush	Daily use as toothbrush to control pyorrhea and toothache.
64.	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Stem	Toothache	Small stem is used as toothbrush to cure toothache	Daily use as toothbrush to control toothache
65.	<i>Lavania cucumbels</i> L.	Asteraceae	Leaves	Swelling	Crush the fresh leaves and prepare paste	Apply the paste on swellings
66.	<i>Lawsonia alba</i> Lamk.	Lythraceae	Stem bark	Toothache	Bark of stem is chewed	Place the chewed bark in between the teeth for about 20 min to cure toothache
67.	<i>Madhuca longifolia</i> (Koenig.) Macbride	Sapotaceae	Stem	Toothache	Small stem is used as toothbrush	Apply with mustard oil to cure toothache
68.	<i>Mangifera indica</i> L.	Anacardiaceae	Flower	Cholera	Crush two g of flower and mix it in the curd	Take it until cure
			Leaf	Vomit	Extract the juice of young leaves	Take it only once
69.	<i>Melia azedarach</i> L.	Meliaceae	Leaf	Fever	Crush the leaves and put it in a glass of water	Use it up to cure
70.				Stomach ache		Take it with the empty stomach for five days.
71.	<i>Mentha piperita</i> L.	Lamiaceae	Leaf	Insomnia	Three g of mint powder, mix in a glass of water, boil it for 2 min and add	Take it daily for five days

					two teaspoonful honey in it	
				Weakness	Extract leaf juice	Take it twice for a week
72.	<i>Momordica charantia</i> L.	Cucurbitaceae	Leaf	Stomach worm	Crush the leaves and extract one teaspoon juice	Apply it for four to five days
73.	<i>Mucuna pruriens</i> L. DC	Fabaceae	Seed	Sexual potency	50 g seeds are finely powdered	This powder is mixed in 50gm honey and taken every morning. The sperm count increases from 30-80%
74.	<i>Mukia maderaspatna</i> (L.) Roem.	Cucurbitaceae	Root	Toothache	Root is chewed	Apply for about 15 min to relieve
75.	<i>Murraya koenigii</i> L. Spreng	Rutaceae	Leaf	Digestion	Mix a cup of leaf juice and curd. Then add a pinch of asafetida and salt in it.	Take it twice for three days
76.	<i>Murraya paniculata</i> L. Jack.	Rutaceae	Stem	Toothache	Toothbrush of stem	Apply as Toothbrush to cure toothache
77.	<i>Musa paradisiaca</i> L.	Musaceae	Leaf	Skin disease	Burn the leaves and mix half teaspoon turmeric powder in the ash	Apply it on the white spots for a week.
78.	<i>Nerium indicum</i> Mill.	Apocynaceae	Leaf	Joint pain	Crush 5-7 leaves, mix in mustard oil and prepare bandage	Apply the bandage twice for two days
			Root	Swelling	Crush the roots of white <i>Nerium</i> and put it in half cup of warm water.	Apply the paste twice for a week.
80.	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Leaf	Fever	Crush the leaves and extract the juice	Take the juice in the evening for four days
				Fever cough	Place six leaves and half teaspoon sugar in one cup of water and boil it for 10 min	Take this mixture for five days.
81.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Leaf	Vomit	Extract the leaf juice and mix one teaspoonful honey in it	Take it for four days
				Cough	Two g of leaves, one inch zinger and two pepper boil in one glass of water	Take it for two days
83.	<i>Phyllanthus airy-shawii</i> Burnel and Roux.	Euphorbiaceae	Plant	Diabetes	Prepare a mixture of dry plant and five black pepper	Use the mixture twice for ten days
84.	<i>Piper nigrum</i>	Piperaceae	Seed	Fever	Crush eight pepper	Take it until cure

	L.				seeds and boil in a cup of water	
				Cold cough	Put two pepper corns in a leaf, chew and swallow the juice	Do it two times for couple of days.
				Asthmatic attack	Remove the skin and make a slit in ripe banana. Put the powder of five pepper in it and cook on live coals.	Eat in the morning only for two days
85.	<i>Polyalthia longifolia</i> (Sonner.) Thw.	Annonaceae	Bark	Bleeding	Crush 15 - 20 g of bark and mix in 200 ml milk	Take it three times per day
86.	<i>Pongamia pinnata</i> L. Pierre.	Fabaceae	Leaf twigs	Toothache	Tender leaf twigs are chewed	Pressed between the teeth for about 15 min to cure toothache
87.	<i>Ricinus communis</i> L.	Euphorbiaceae	Cotyledon	Dental caries	Cotyledon is fried in mustard oil	The smoke emitted by this process is inhaled through the mouth and kept closed for about 10 minutes to relieve dental caries
88.	<i>Rosa canina</i> L.	Rosaceae	Flower	Eye burn	Prepare rosewater	Apply it at night only for five days
			Petal	Small pox	Prepare the infusion of petals and sugar	Eat it for a week
89.	<i>Sesbania grandiflora</i> L. Poir.	Fabaceae	Seed	Brain stimulant	Crush 3-10 g seeds and mix the powder in 250 ml of milk	Take it daily two times per day
90.	<i>Solanum virginianum</i> L.	Solanaceae	Fruit	Dental caries	Powder of dried fruit is used in cigarette	The smoke emitted is kept inside the mouth for about 10 min to relieve dental caries
91.	<i>Spilanthes clava</i> DC.	Asteraceae	Root and flower	Dental caries	Root and flower head is chewed	Kept for about 10 min to relieve dental caries
92.	<i>Tagetes erecta</i> L.	Asteraceae	Leaf	Ringworm	Crush the leaves and prepare a fine paste	Apply the paste in the evening for seven days
93.	<i>Tamarindus indica</i> L.	Caesalpinaceae	Leaf	Swelling	Crush the leaves to form paste and prepare a bandage	Apply the bandage on the swelling twice for five days
94.	<i>Tinospora cordifolia</i> (Willd.) Mier ex Hook. f.	Menispermaceae	Twigs	Menorrhagia	5-6 cm twig and a small piece of sawari bark are ground to powder and mixed together	Prepared mixture of powder is given to the patient twice a day for 3 days
95.	<i>Tridax procumbens</i> L.	Asteraceae	Leaf	Bleeding	Crush the leaves and extract juice	Apply 3-5 drops of leaf juice on the cut to stop bleeding as well as to cure it.
96.	<i>Ziziphus xylopyra</i>	Rhamnaceae	Leaf	Leucoderma	Leaves of <i>Ziziphus xylopyra</i> and	This paste is applied on the patches till

	(Retz.) Willd.				flowers of <i>Datura innoxia</i> Mill. are crushed to prepare a paste	relief is felt
97.	<i>Syzygium aromaticum</i> L.	Myrtaceae	Bud	Toothache	Dip the cotton in clove oil	Apply it on the tooth in the evening for a week.
98.	<i>Syzygium heyneanum</i> (Duthie) Wall ex. Gamble	Myrtaceae	Leaf	Mouth abscess	Crush 5-7 leaves and boil it in the water	Use this water to rinse the mouth
			Seed	Ear pain	Crush the seeds and mix the powder in honey	Use it in the evening for three days
			Bark	Prevention of pregnancy	Bark in the west side of the tree is removed and powdered	Spoonful powder is given to the women as a single dose on the 5 th day of menstruation

symptoms but also the patient's emotional and spiritual health. Beyond simple botanical diversity, the rich tapestry of medicinal plants in the Satpuda Mountains tells a story of traditional healing methods that are ingrained in the customs of indigenous tribal people. The varied flora acts as a pharmacopeia, providing all-encompassing healing for a plethora of illnesses. Traditional healers with their extensive knowledge of these plants are essential in directing the course of therapy and guaranteeing a culturally sensitive and individualized approach to healthcare.

Cultural and spiritual intertwining of medicinal practices

The cultural customs and belief systems of the tribal societies are closely linked to the usage of herbal remedies. Certain plants are often used in healing rituals; traditional healers are vital in maintaining and disseminating this knowledge. The use of medicinal herbs in the Satpuda Mountains is not limited to a medical practice; rather, it is an integral part of the indigenous tribal peoples' cultural identity. Beyond its therapeutic uses, these cultures' association with the varied flora weaves a cultural tapestry that influences daily life, rituals and the transmission of traditional knowledge. The tribal communities employ every method to preserve the plants that are employed in various rites. Thousands of pockets of natural vegetation are kept in nearly perfect condition throughout India, despite the

fact that ecological degradation and deforestation are occurring at an alarming rate across the world. Certain plants are regarded as sacred in origin and necessary for religious purposes by almost all religious groupings and tribal societies (Sharmad and Pegu, 2011). This spiritual component emphasizes a holistic approach to treatment that takes into account the mental, emotional, and spiritual facets of well-being and lends a hallowed element to the use of these plants which are evident from the following aspects:

- *Ceremonial importance:* In tribal ceremonies, several medicinal herbs have ceremonial importance. Gathering particular plants or holding healing rituals turns into a custom that unites people with their cultural history and fortifies ties to the community. These rituals frequently incorporate music, dancing, and storytelling, weaving together a complex tapestry of cultural experiences.
- *Role in rites of passage:* In tribal tribes, medicinal herbs are essential to many rites of passage. Certain plants are used in connection with important life events such as marriage celebrations, initiation rites and birth rituals. The transmission of customs from one generation to the next is strengthened by this merging of cultures.
- *Symbolism in art and craft:* Medicinal plants

also have symbolic meanings in ancient crafts and art. Images of important plants are frequently included by indigenous tribes into their artwork, whether it be in ceramics, textiles, or paintings. These depictions aid in the preservation of traditional knowledge and provide as a visual testimony to the significance of the flora in culture.

- *Community healing spaces:* Establishing and preserving medicinal plant groves or community herbal gardens is a symbol of a shared dedication to health and wellbeing. These areas function as social gathering places where customs and expertise are exchanged in addition of being stores of therapeutic herbs.
- *Sustainable practices rooted in culture:* Sustainable practices have a close relationship with the cultural significance of medicinal plants found in the Satpuda Mountains. Native American tribes are innately aware of the fine line that must be drawn between collecting and preserving the natural environment. This sustainable method represents a cultural culture of respect for the environment in order to preserve the rich medicinal legacy for future generations.
- *Preserving cultural heritage:* Transferring customary wisdom about therapeutic herbs is a crucial part of maintaining cultural identity. It is crucial that elders and traditional healers make sure that future generations carry on this priceless knowledge. The persistence of cultural heritage is bolstered by efforts to record and pass on this information to future generations. Essentially, the Satpuda Mountains' medicinal plant culture is about more than just personal health regimens; it's about identity, spirituality and communal cohesiveness.

Integration with modern healthcare

The importance of indigenous knowledge in contemporary healthcare is becoming more widely acknowledged. In an attempt to promote a holistic strategy that capitalizes on the advantages

of both medical systems, efforts are being made to incorporate ancient healing methods with modern medicine. The tribal populations in the Satpuda Mountains have long used medicinal herbs, and their practices are integrated into the larger framework of contemporary healthcare. The importance of ancient healing methods is becoming more widely acknowledged and initiatives are being made to incorporate the abundance of indigenous knowledge into contemporary healthcare systems. A more thorough and culturally aware approach to health and well-being could result from this integration.

The breadth and effectiveness of traditional healing knowledge possessed by indigenous communities in the Satpuda region are being recognized by contemporary healthcare practitioners more and more. The distinct perspectives about the remedial attributes of regional flora are regarded as significant additions to the wider comprehension of medical science. The goal of cooperative projects involving local populations, scientific researchers and traditional healers is to record and authenticate the customary applications of medicinal plants which is the need of the hour. Research investigates the bioactive substances found in these plants, bridging the gap between conventional wisdom and evidence-based medicine. Herbal medicines stemming from ancient knowledge are being incorporated into some modern healthcare practices in the region. This integration entails including particular medicinal plants into regimens for treating particular illnesses.

Integrating conventional medical procedures with contemporary therapies encourages a more all-encompassing view of health. Practitioners want to cure not just physical problems but also mental, emotional and spiritual elements of well-being by fusing the qualities of both systems. The dynamic and cooperative approach that recognizes the diversity of health knowledge found in the Satpuda Mountains is reflected in the ongoing evolution of the integration of ancient healing techniques with contemporary healthcare.

Conclusion

In conclusion, the native herbal remedies that tribal tribes employ throughout the Satpuda Mountain Ranges show how closely nature, culture and health are intertwined. The retention of this traditional knowledge benefits the well-being of these communities and provides insights that can advance the healthcare industry as a whole. It is crucial that the recognition and appreciation of the wisdom of indigenous healing practices are pivotal in perpetuating and minimizing the complexity of emerging health threats in the twenty-first century in order to promote a more inclusive and long-lasting approach to wellbeing.

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