

# Studies on Ethnomedicinal Uses and Formulation of Herbal Drugs from Medicinal Plants of Ranchi District- A Survey

P. R. Sahu, A. S. Khalkho\*, S. Kumari and S. Alam

Department of Biotechnology, Marwari College, Ranchi, Jharkhand, India

\*Corresponding author e-mail: [sarkhalkho@gmail.com](mailto:sarkhalkho@gmail.com)

## ABSTRACT

**Introduction:** Plants have been the basis for medical treatments through much of human history, and such traditional medicine is still widely practiced today. Modern medicine recognizes herbalism as a form of alternative medicine, as the practice of herbalism is not strictly based on evidence gathered using the scientific method. Modern medicine, does, however, make use of many plant-derived compounds as the basis for evidence-tested pharmaceutical drugs, and phytotherapy works to apply modern standards of effectiveness testing to herbs and medicines that are derived from natural sources.

**Objectives:** To examine the traditional therapeutic properties of indigenous medicinal plants in urban and rural location of Ranchi, North Eastern India.

**Methods:** In the present study ethnomedicinal survey was conducted in various urban and rural locations of Ranchi District of Jharkhand state during March 2009 - Sep2010.

**Results:** The people of the study area have expertise in utilizing different plant parts as medicine for the treatment of all sorts of ailments. This paper additionally deals with the enlistment and documentation of traditional therapeutic properties of 74 indigenous medicinal plants, which are in practice for the treatment of diseases by inhabitants of the study area. The information on ethnomedicinal formulation is based on the interview with local traditional herbal practitioners, Vaidhya and other knowledgeable persons, who prescribe their herbal preparation to treat various ailments.

**Conclusion:** The study exclusively examined many novel plants and plant products based on its medicinal uses and properties. This survey needs to be integrated with healthcare system (research & industrial level) to explore new drug formulation for medicinal upgradation of humans.

**Keywords-** Medicinal plants, Herbal treatment, Folklore, Ailments.

## INTRODUCTION

Majority of world population relies on traditional medicines for primary healthcare, most of which involves use of locally available plants. In India all most 95% of the prescription are plant based in the traditional systems of Unani, ayurveda, Homeopathy and Siddha<sup>1</sup>. Ancient ethnic communities around the world have learnt to utilize their neighborhood herbal wealth for curative as well as offensive purposes<sup>2</sup>. Due to lack of literacy, their knowledge on plants developed often at the cost of their dear life through centuries old experience could be perfectly documented and it had rather descend from one generation to another as a domestic culture heritage<sup>3</sup>.

Modern medicinal facilities are now making a rapid penetration into the areas which have been centers of herbal use as medicines for ages as their tradition. Such activities may result in disappearance of traditional use and knowledge herbal wealth. It is therefore important (as bioethical matter) that the valuable knowledge from locally folklore, in particular, of the medicinal uses of locally available plants to treat different diseases be recorded<sup>4</sup>.

Many attempts have been made on inventarisation of medicinal plants currently being used for treatment of ailments in different parts of India such as Nayar<sup>5</sup> reported medicinal plants of Eastern Ghats, Nagaraju and Rao<sup>6</sup> enlisted medicinal plants of Tirumala Hills and the plants crude drug of Rayalaseema (A.P.). Similarly Jain et al. from Raipur<sup>7</sup>, Kumar *et al.*, from Bikaner<sup>8</sup>, Bondya *et al.*, and Chandra *et al.* from Ranchi<sup>9,10</sup> have studied on medicinal plants and their traditional uses.

Ranchi district of Jharkhand state is immensely rich in biodiversity and ethnomedicinal information. Ranchi the capital of Jharkhand lies between 22° 30' N - 23° 30' N latitude and 85° E-86° E longitude. It is located at an altitude of 654 m above

sea level. The annual average rainfall in Ranchi district is about 1530 mm. The whole district is covered by red sandy soil. Jharkhand state is immensely rich in biological diversity and traditional knowledge with about 23,605 sq km forest area, which is 29% of the total geographic area. It is also rich in ethnomedicine and about 80% people live in rural area<sup>10</sup>. The population comprising various ethnic groups and indigenous mass making it hub of horopaths, Pahans, Vidhya and other having traditional knowledge about medicinal uses of various plants found in ambience. The current trend of life style is resulting in gradual loss of valuable indigenous therapeutic knowledge (Homeopathy) associated with ethnic culture in the area in particular<sup>3</sup>.

The present communication records documentation and compilation of fragmentary ethnic knowledge about the medicinal and nutritional indigenous plants. In the paper, attempt has been made to document the folklore formulation so that in near future it may lead to the discovery of new medicines and help in protecting their IPR.

## MATERIAL AND METHODS

Ethnomedicinal survey was conducted during Mar 2009 – Sep 2010 in 5 different blocks of Ranchi district namely, Kanke, Ratu, Mander, Bero and Lapung. The requisite ethnomedicinal properties of different plants were recorded through direct interview with the local people and practitioners on the basis of their traditional knowledge and the folklore formulation, which they were prescribed to their patients. After documentation, use of formulation was cross checked and confirmed. The plants were identified with the herbaria of Ranchi University and Department of Forestry of Birsa Agriculture University, Ranchi, Jharkhand.

Scientific botanical identification of the collected plants was done by referring to Haines<sup>11</sup>, Hembrom<sup>12</sup>, Prasad<sup>3</sup> and Chandra<sup>10</sup>. Queries were asked on the basis of readymade questionnaire<sup>13</sup> to know the traditional knowledge used in practice by local people. All collected specimen were deposited in the herbarium of Department of Botany, Marwari College, Ranchi, Ranchi University for future references.

## RESULTS & DISCUSSION

The documentation has been done on the basis of information extracted from the knowledgeable local practitioners, the patients who have cured and the plant collectors of the area. A list of 74 plants and their uses has been presented in Table 1 in alphabetical order giving their Botanical name, followed by local name, family and medicinal uses.

The works of Hippocrates (459–370 BC) contain 300 medicinal plants classified by physiological action: Wormwood and common centaury (*Centaureum umbellatum Gilib*) were applied against fever; garlic against intestine parasites; opium, henbane, deadly nightshade, and mandrake were used as narcotics; fragrant hellebore and haselwort as emetics; sea onion, celery, parsley, asparagus, and garlic as diuretics; oak and pomegranate as adstringents. Most of these plant species were recorded as folklore formulation with their local names, plant parts used, quantity and mode of application for the treatment of various ailments have been enumerated, this statement was further found in agreement with Ganapaty *et al.*<sup>14</sup>. The ailments include menstrual cycle disorder, leucoderma, skin disease, blood pressure, diabetes, Malaria, snake bite, tooth ache, infertility, joints pain, contraceptive, rheumatism, jaundice, wound healing, etc. The knowledge from herbal practitioners on the abortifacient, female

contraceptives and wound healing is one of the present day situations<sup>15</sup>.

## CONCLUSION

These traditional medicines of indigenous origin may be integrates with national health care system. Plants have been selected and used empirically as drug for centuries, initially as traditional preparation then as pure active principle. The study is likely to promote a rational use of botanicals and must be continued focusing on isolation and characterizing the active principles of the crude extract, its pharmacological validation, standardization and formulation. It is hoped that such ethnomedicinal study will provide important database of the different folklore formulation used locally of the study area to cure different diseases.

## ACKNOWLEDGEMENTS

The author is grateful to the traditional healers for co-operation and sharing their precious knowledge and information. Author is also thankful to the forest officers of Birsa Agriculture University of Ranchi for identifying the plants and the local people for their information regarding addressing of traditional practitioners. Thanks are due to the principal Dr. J. Ahmed of Marwari College Ranchi, Prof in-charge Dr. R. L. Ram, for proving facilities and giving suggestions.

## Conflict of Interest

We have no conflict of interest to declare.

## REFERENCES

1. GV Satyavati; AK Guptq; N Tandon. Medicinal Planta od India 2, India Council of Medical Research, New Delhi, India.-A

- pilot study. *Afr. J. Trad. CAM*, 1987; 3(1), pp. 426-456.
2. A Subramoniam; P Pushpangadan. Ethnopharmacological validation of traditional medicines. In: Glimpses of Indian Ethno-pharmacology Push pangadan P, Nyman U, George V (Ed.). *TBGRI, Thiruvananthapuram*, 1995; pp. 351-360.
  3. PG Ishwari. Studies on ethnomedicinal uses of indigenous plants of Kake Block, Ranchi Jharkhand. *The Bioscan*, 2009; 4(1), pp. 85-87.
  4. N Savithamma; A Sudarasanamma. Endemic medicinal plants from central part of eastern ghats of India. *The Bioscan* 2006; 1(4), pp. 51-54.
  5. MP Nayar. Hot Spots of Endemic Plants in India, Nepal and Bhutan, tropical Botanical Garden and Research Institute, Thiruvananthapuram Kerala, 1996; pp. 251.
  6. N Nagarjun; KN Rao. The survey of medicinal plants of Tirumala, Andhra Pradesh, India, T.T. Devasthanams Publications, Tirupati, India, 1990.
  7. SP Jain; SC Singh; J Singh; S Kumar. Ethnomedico-botanical survey of Raipur District, C.G. state. *J.Econ. Taxon. Bot*, 2003; 27(2), pp. 266-271.
  8. S Kumar; S Goyal; F Parveen. Ethno-medico-botany of household remedies of Kolayat Tehsil in Bikaner district, Rajasthan, India. *J. Trad. Knowledge*, 2003; 2(4), pp. 357-365.
  9. SL Bondya; HB Sahu; AK Choudhary. Indigenous medicinal plants used in animal therapy by the tribes of Ranchi, India. *Int.J. Pl. Sc*, 2008; 3(1), pp. 270-272.
  10. C Rabish; M Malati; SC Mandal; K Kamini; K Jyoti. Ethnomedicinal formulations used by traditional herbal practitioners of Ranchi, Jharkhand India. *Journal of Traditional Knowledge*, 2007; 6(4), pp.599-601.
  11. HH Haines. 1921-25. Botany of Bihar and Orissa. 1(3): BSI, Calcutta (W.B).
  12. PP Hembrom. 1995. Adivasi-Ausadh (Heropathy). 1(7): Paharia Seva Samity. Pakur, Jharkhand.
  13. SC Mahto; HB Sahu. Traditional therapeutic knowledge on common 'sags' among the Indigenous people of Panch- paragana (Jharkhand). *Int . J. pl Sc*; 2008; 3(2), pp. 95-101.
  14. S Ganapaty; M Ramaiah; P Ramakrishna; DN Reddy. Scientific validation and formulation of three Indian Folklore medicinal plants. *J. Pharma. Res*; 2013; 6, pp. 823 -835.
  15. S Mitra; SK Mukherjee. Some abortifacient plants used by tribal people of West Bengal. *Nat. Pro. Rad*; 2009; 8(2), pp. 167-171.

**Table 1.** List of important medicinal plants in Jharkhand and their uses

S. No.	Latin Name	Local Name	Uses	
1	<b><i>Abrus precatorius</i></b> 	Karjani	Seed -	Purgative, emetic, aphrodisiac, poultice of seeds used as suppository for abortion
			Root -	Emetic, alexiteric
			Leaves -	Juice from fresh leaves is said to remove spots of leucoderma
2	<b><i>Acacia arabica</i></b>	Babul	Fruit -	Ground fruit mixed with sugar is given to weakness by tribal
			Bark -	Astringent, demulcent
			Gum -	In dry cough, diarrhea, dysentery and diabetes mellitus
3	<b><i>Acacia catechu</i></b>	Khair	Bark	Astringent Kath
4	<b><i>Achyranthes aspera</i></b> 	Apamarg	Plant -	Purgative and diuretic, used in dropsy, Piles, Boils, Skin eruptions, Colic, Snake-bite etc.
			Root -	Astringent, used in Pyorrhea
			Seed -	Emetic
5	<b><i>Adina cordifolia</i></b>	Karam	Bark -	Febrifuge, Antiseptic, also used to kill worms in sores
6	<b><i>Ailanthus excelsa</i></b>	Ghorkaranj	Bark -	Aromatic, Tonic, Febrifuge, Expectorant, Antispasmodic and Astringent; used in Rheumatism also.
7	<b><i>Aegle marmelos</i></b>	Bel	Fruit -	Pulp of ripe fruit aromatic, cooling and laxative while half ripe fruit Astringent, Digestive and Stomachic
			Root -	Used in intermittent fevers, and as bark fish poison.
8	<b><i>Alangium Lamarckii</i></b>	Dhela	Leaves -	As poultice in rheumatic pain
			Bark&root	In Jaundice
			Root Bark	Purgative, anthelmintic and useful in fever and skin diseases.
9	<b><i>Albizzia lebbek</i></b>	Siris	Plant -	In snake-bite and scorpion sting, infusion given in anemia and for curing itch.
			Bark&Seed	Astringent, tonic and restorative, given in piles and diarrhea

			Root bark	In Powder form used to strengthen gums in night-blindness.
10	<i>Albizzia procera</i>	Safed Siris	Leaves -	Used as insecticide, made into poultice and applied to ulcer
11	<i>Alstonia scholaris</i>	Chatni	Bark -	Tonic, alternative, febrifuge, useful in diarrhea dysentery and snake-bite Milky
			juice -	Applied to ulcer
12	<i>Audrographis</i>	Kalmegh	Plant -	Tonic febrifuge, alternative anthelmintic paniculata
13	<i>Artocarpus lakoocha</i>	Barhar	Seed -	Ground and given to children as purgative
14	<i>Asparagus racemosa</i> 	Satawar	Root -	Decoction used by tribal in fever, refrigerant, demulcent, aphrodisiac, antiseptic, alterative, galactagogue.
15	<i>Azadirachta indica</i>	Neem	Leaves -	Carminative, expectorant, anthelmintic, antidotal, diuretic and insecticidal; externally applied in skin diseases as antiseptic and stimulant.
			Bark -	Bitter tonic, astringent, alterative, anthelmintic,
			Roots & Trunk	Antispasmodic and stimulant
			Gum -	Stimulant and demulcent
			Fruit -	Used in urinary diseases, piles, leprosy, intestinal worms etc.
			Seed oil-	Antiseptic dressing in skin diseases
16	<i>Bauhinia purpurea</i>	Koenar	Bark -	Astringent
			Root -	
			Flowers-	Laxative
17	<i>Bauhinia retusa</i>	Kathal	Gum -	Emmenagogue, diuretic
18	<i>Bombax ceiba</i>	Semal	Root -	Tonic, stimulant emetic, aphrodisiac
			Leaves -	Boiled and given with sugar in case of weakness
			Gum -	Aphrodisiac, demulcent, haemostatic, astringent, tonic alterative.
19	<i>Boswellia serrata</i>	Salai	Gum -	Diaphoretic, diuretic, astringent, emmenagogue, tonic

20	<b><i>Buchanania lanzan</i></b>	Piar	Oil -	Tonic a substitute for almond oil in native medical preparations
			Gum -	Used in diarrhea
21	<b><i>Butea frondosa</i></b>	Palas	Leaf -	Astringent, tonic
			Seed -	Anthelmintic
			Gum -	Astringent
22	<b><i>Calotropis gigantea</i></b> 	Akaon	Leaves -	Used in dropsy and enlargement of abdominal viscera, smoked or smoke inhaled in asthma & cough, decoction for extracting guinea worms.
			Root bark	Cholagogue, diaphoretic, emetic, alterative and diuretic.
			Flower -	Tonic, stomachic, digestive and expectorant.
			Latex -	Abortifacient as well as used in leprosy, dropsy, rheumatism, etc.
23	<b><i>Carissa carandas</i></b>	Kanwar	Fruit -	Appetizer, ground green fruit with salt taken in dysentery
24	<b><i>Cassia fistula</i></b>	Amaltas	Leaves-	Laxative, tonic, febrifuge, purgative
			Seeds & Root Bark	Astringent, tonic, febrifuge, purgative.
			Root -	
			Flower -	Purgative
			Fruit -	Cathartic also applied in rheumatism
Seeds -	Emetic.			
25	<b><i>Chloroxylon</i></b>	Bharhul	Leave -	Used for cure of sores in cattle swietenia
26	<b><i>Clerodendron infortunatum</i></b>	Bhant	Leaves -	Tonic, antiperiodic, febrifuge, vermifuge, also used in skin diseases and as substitute for chireta
27	<b><i>Dalbergia latifolia</i></b>	Kala Sissoo	Leaf -	Boiled and infusion taken in weakness
28	<b><i>Emblica officinalis</i></b>	Amla	Fruit -	Richest source of vitamin 'C', refrigerant, antiscorbutic, diuretic, laxative, astringent, stomachic, blood purifier, appetizer.
			Seed -	Infusion used as eye-wash in ophthalmic diseases.
29	<b><i>Eugenia spp.</i></b>	Jamun	Bark -	Astringent, decoction used for gargles, fresh juice used in diarrhea of children
			Fruit -	Juice (fresh as well as vinegar) used as stomachic, carminative, diuretic.
			Seed -	Used in diabetes.

30	<i>Euphoria hirta</i>	Dudhi	Plant -	Vermifuge and expectorant
31	<i>Ficus benghalensis</i>	Bar	Leaves -	Poultice applied to abscesses
			Bark -	Tonic, astringent, used also in diarrhea and diabetes.
			Seed -	Refrigerant, tonic
			Milky -	Applied externally for pains in rheumatism juice and lumbago
32	<i>Ficus religiosa</i>	Pipal	Young & Shoots	
			leaves -	Purgative
			Bark -	Astringent, infusion taken internally in scabies
			Fruit -	Laxative
			Seeds -	Cooling and alterative.
33	<i>Flacourtia ramontchi</i>	Katai	Fruit -	In jaundice and enlarged spleen
			Gum -	Given with other ingredients in cholera.
34	<p><i>Helicteres isora</i></p> 	Aintha	Root -	Expectorant, demulcent, astringent, juice in diabetes and stomach affections, topical application for scabies.
			Bark -	Expectorant, demulcent and astringent, also used in dysentery and diarrhea.
			Fruit -	Demulcent and astringent, useful in gripping of bowels and flatulence of children.
35	<i>Holarrhena antidysentrica</i>	Koreya	Bark -	Used in dysentery, rubbed in ground form over body in dropsy.
			Seed -	Astringent, febrifuge, used in dysentery, diarrhea and vermifuge.
36	<i>Holoptelia integrifolia</i>	Chilbil	Bark -	Juice of boiled bark applied to rheumatic swellings
			Leaves -	Fish poison
37	<i>Hymenodictyon excelsum</i>	Bhurkur	Bark (inner) -	Astringent and febrifuge
38	<i>Lannea grandis</i>	Genjan	Leaves -	Boiled and applied for local swellings and pains
			Bark -	astringent, used as lotion in eruption, ulcer, etc., decoction used in toothache
39	<i>Litsaea sebifera</i>	Medh	Bark -	Crushed and used for curing pain; given to cows to strengthen them
40	<i>Madhuca latifolia</i>	Mahua	Bark -	Used in rheumatic affection as well as itch and its decoction as astringent and tonic.

			Flower -	Fried flowers eaten in piles; its spirit is astringent, tonic, appetizer and sedative.
41	<i>Melia azedarach</i>	Bakain	Root bark-	Fruit, flower and leaves Deobstruent, resolvent, alexipharmic; juice of leaves anthelmintic, antilithic diuretic and emmenagogue
			Seed Oil -	Used in antiseptic dressing
42	<i>Michelia champaca</i>	Champa	Bark -	Febrifuge, stimulant, expectorant, astringent, purgative.
			Flowers Seed and fruits-	Stimulant, antispasmodic, tonic, stomachic, carminative and cooling, used in dyspepsia, nausea, fever, renal diseases and applied externally in vertigo with sesamum oil. Oil from flowers cephalagia, ophthalmia and gout.
43	<i>Mimosa pudica</i>	Lajwanti	Root -	Decoction used in gravellish complains
			Leaves -	Used in piles and fistula; paste applied in hydrocoel and scorpion sting.
44	<i>Mucuna prurita</i> 	Alkusi	Root -	Purgative febrifuge, used in cholera and dropsy
			Seed -	Aphrodisiac and nervine tonic.
45	<i>Nyctanthes arbortristis</i> 	Samsihar	Leaves -	Used in fever and rheumatism; warm decoction in sciatica and expressed juice used as laxative, tonic and vermifuge.
46	<i>Oroxylum indicum</i>	Sonapatta	Root bark-	Astringent, diaphoretic, tonic, used in diarrhea and rheumatism
			Leaves -	Burnt leaves taken with wine as a remedy for cough.
			Fruits(Ten der)-	Carminative and stomachic

			Seeds -	Purgative
47	<i>Ougeinia oojenensis</i>	Sandan	Bark -	Febrifuge, decoction given in highly colored urine
			Gum -	Used in dysentery and diarrhea, and also as fish poison
48	<i>Pongamia pinnata</i>	Karanj	Root -	Juice used in fistulous sores and for cleaning foul ulcers.
			Stem bark (fresh)	Used internally for bleeding piles
			Leaves -	Used as poultice in worm infested ulcers.
			Seed -	Oil used in coetaneous affections, herpes scabies and rheumatism.
49	<i>Pterocarpus marsupium</i>	Bai, Paisar	Bark -	Astringent
			Leaves -	Externally applied in boils sores and skin diseases
			Wood -	Extract used in diabetes
			Gum -	Astringent, used in diarrhea pyrosis and toothache.
50	<i>Pueraria tuberosa</i> 	Patal Kohra	Root -	Demulcent, refrigerant, emetic, tonic, lactagogues. paste rubbed in rheumatism.
51	<i>Rauwolfia spp.</i> 	Sarpagandha	Root -	Febrifuge, antidote for bites of snakes, insects, etc.
52	<i>Rubia cordifolia</i>  <small>147. Rubia cordifolia</small>	Jotsingh	Root -	Astringent, alterative, deobstruent and tonic; decoction used in jaundice paralysis, urinary and menstrual troubles and inflamed chest.
			Stem -	Used in cobra-bites and scorpion sting.
53	<i>Schleichera oleosa</i>	Kusum	Bark -	Astringent, used with oil in itch
			Seed -	Power applied to remove maggots

				of animal ulcers,
			Oil -	Used for cure of itch, ache and scalp and for promoting hair growth.
54	<i>Semecarpus anacardium</i>	Bhelwa	Nut -	Vermifuge and applied in uterus for abortion
			Oil -	Used in rheumatism and leprous nodules
			Gum -	Used in venereal and leprous affections and nervous debility.
55	<i>Shorea robusta</i>	Sal, Sakhua	Resin -	Astringent, detergent, digestive, aphrodisiac and used for fumigation to purify houses
			Leaves & Bark	Burnt powder in linseed oil used for healing burns.
56	<i>Smilax macrophylla</i>	Ramdatwan	Roots -	Used in bloodless dysentery, venereal diseases (as substitute for sarsa-parilla) rheumatism and pains in lower extremities.
57	<i>Prolifera</i>	Ramdatwan	Root -	Used in blood dysentery and in cases of dark and reddish urine
58	<b><i>Solanum nigrum</i></b> 	Makoi	Plant -	Juice used as hydrogogue, cathartic, diuretic, alterative and in chronic enlargement of liver, blood spitting, piles, dysentery etc.
			Leaves -	Decoction used as laxative and diuretic.
			Berries-	Used in fever, diarrhea, eye diseases and hydrophobia.
59	<b><i>Solanum xanthocarpum</i></b> 	Rengni	Plant -	Used in diuretic dropsy and gonorrhoea
			Root -	Expectorant, antiemetic.
			Leaves -	Applied locally for pains and juice with pepper taken in rheumatism
			Buds & - flowers	Salt solution used for watery eyes
			Berries-	Carminative and also used in sore-throat
60	<i>Soyimida febrifuga</i>	Rohan	Bark -	Astringent, febrifuge, tonic; used in general debility, intermittent fever, diarrhea and dysentery.
61	<i>Sterculia urens</i>	Gulu, Keonjhi	Leaves & tender branches-	Mucilaginous extract used in pleuro-pneumonia in cattle

			Gum -	Used in throat affections and as substitute for tragacanth
62	<i>Stereospermum suaveolens</i>	Papar, Panrar	Root	
			Bark -	Cooling, diuretic, tonic
			Flower -	Used in hiccough and as aphrodisiac
63	<i>Tamarindus indica</i>	Tetar, Imli	Leaves -	Infusion used in eye diseases
			Seed -	Burnt and used as tooth-powder.
64	<i>Tectona grandis</i>	Teak, Sagwan	Leaves -	Burnt leaves in linseed oil used for curing itch.
65	<i>Tephrosia purpurea</i> 	Sarphuka	Plant -	Tonic, laxative, anthelmintic
			Root -	Used in tympanitis, dyspepsia and chronic diarrhea fresh root bark used in colic.
66	<i>Terminalia tomentosa</i>	Asan	Bark -	Astringent, diuretic, cardiotoxic; burnt bark mixed with linseed oil used for curing itch.
67	<i>Terminalia arjuna</i>	Arjun	Bark -	Astringent, febrifuge, cardiotoxic, used as antidote to poison
			Kahua Leaves	Fresh juice used in ear-ache
			Fruit -	Tonic and deobstruent
68	<i>Terminalia belerica</i>	Bahera	Fruit -	Astringent, tonic, laxative, antipyretic, purgative (half - ripe ones); also used in piles, dropsy, diarrhea, leprosy, biliousness, dyspepsia and headache.
			Kernel -	Narcotic, vermifuge
69	<i>Terminalia chebula</i>	Hare	Fruit -	Astringent, laxative, alterative; used in carious teeth and bleeding gums, etc.
			Bark -	Diuretic and cardiotoxic.
70	<i>Urginea indica</i> 	Jangli	Bulb -	Expectorant, diuretic and cardiac stimulant piaz, Kandri
71	<i>Vetiveria zizanioides</i>	Khus		Used in tympanitis, dyspepsia and chronic diarrhea fresh root bark used in colic.

				
72	<p><b><i>Vitex negundo</i></b></p> 	Sinduar	Root - Leaves - Fruit (dried)-	Expectorant, febrifuge, tonic Tonic, vermifuge and used in acute rheumatism Vermifuge
73	<b><i>Woodfordia fruticosa</i></b>	Phuldhawai	Flowers (dried) -	Astringent, used in dysentery, menorrhagia, disorders of liver and mucous membrane; considered a safe stimulant in pregnancy
74	<b><i>Zizyphus xylopyrus</i></b>	Kankar	Leaves -	Ground and applied as poultice for cure of swelling

