



## Research article

## Ethnomedicinal study in reserve forest area of Jhunjhunu District, Rajasthan, India

Anita Jeph<sup>1\*</sup> and J. B. Khan<sup>2</sup>

<sup>1</sup>Department of Botany, Govt. Girls College, Jhunjhunu-333001, Rajasthan, India

<sup>2</sup>Department of Botany, Govt. Lohia College, Churu-3331001, Rajasthan, India

\*Corresponding Author: [prof.anitajeph@gmail.com](mailto:prof.anitajeph@gmail.com)

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**Abstract:** Ethnomedicinal Plants are vast natural sources of significant medicinal organic and inorganic eco-friendly components that are used in various ailments of inhabitants. The study was conducted to document the indigenous practices of therapeutic plants of reserve forest area-Beed Jhunjhunu of Jhunjhunu District. The data was obtained from inhabitants of the area through interviews and method of questionnaires. This paper enumerates 53 plant species belong 35 families used by the local traditional practitioners. These plant species used in various diseases by surrounding people of the study area and also used in pharmaceutical industries. The purpose of the present study is to explore the medicinal values of these plant species and create awareness about the ethnic value.

**Keywords:** Jhunjhunu Beed - Tribes - Traditional medicinal plants - Folk practitioners - Herbal medicines.

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### INTRODUCTION

It is documented that 80% of the world's population believes in traditional medicine for their primary healthcare (Kala 2001). India is one of the richest, oldest (2000–6000) country and major contributions of folk medicine incurring disease and ailments using ethno herb (Mehra *et al.* 2014, Bajpai *et al.* 2016). About 17000 species of higher plants, of which 7500 species are known for medicinal uses (Shiva 1996). There are many references to natural plants, used in medicines in "Rigveda" 1500–400 BC, Upanishada 1000–600 BC which are the Indian religious Grantha (Chauhan 1999). Traditional medicine is used to maintain people's health, as well as to prevent and diagnose the disease or improve and treat physical and mental illnesses all over the world (Huai & Pei 2002, Truyen *et al.* 2015, Ngbolua *et al.* 2016, Singh & Kumar 2017, Ibekwe *et al.* 2018). Ethno plants are used to many healing powers also. These plants are used since many centuries its aim to discovery modern drug. Traditional ethno plants have been studied and developed which is the ethno lead of traditional knowledge used by traditional medicinal systems (Pei 2007). Traditional medicinal knowledge, especially using medicinal plants in the developing countries, has been in existence and use, and has been a part of therapeutic practices (Moa *et al.* 2013). Therefore, the investigation of plants and their uses (especially medicinal purposes) are one of the most primary human concerns and have been practiced in the world (Bussmann & Sharon 2006).

The existence of traditional medicine knowledge was there in old era as well as in developing countries also, and it is also useful in today's scenario, we can say it is the part of therapeutic practices. (Moa *et al.* 2013). Therefore, the benefits, research and the uses of plants (medicinal purpose) and uses of plants are one of the most primary human concern and it is the common practice all over the world. (Bussmann & Sharon 2006).

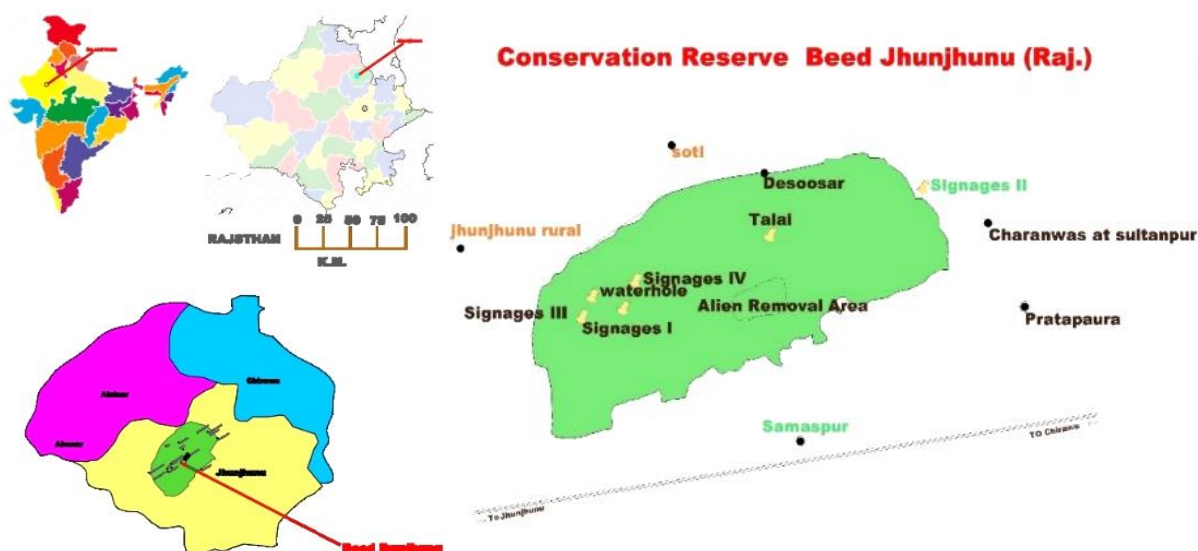
In Rajasthan, about 12.44% of the total population is the tribal population namely, Kanjar, Gadolia Luhar, Bawaria, Bhil, Mina, Garasia, Sahria, Damor, Patelia, etc. They still prefer traditional medicines for their household remedies. The herbal medicines commonly used by these tribes mostly belong to different families such as Zygophyllaceae, Caesalpiniaceae, Pedaliaceae, Fabaceae, Meliaceae, Asclepaidaceae, Nyctaginaceae, Euphorbiaceae, Euphorbiaceae, Rhamnaceae and Salvadoraceae etc (Bussmann & Sharon 2006). The present study is an effort to focus on the documentation and preservation of the tribal knowledge on some of the ethno

plants. Tribal practice especially their use of herbal medicines, can open newer ethno knowledge and tell us how to use the herbal plant against in various diseases for the modern era. The present record and study of ethno plants will be used in the future as plant's resource for the modern traditional system of medicine in the new era. A perusal of literature revealed that significant contribution has been made by several workers on ethnobotany in Rajasthan and India, these studies have been carried out by various botanists from different parts of the state (Jain 1975, Jain 1991, Jain & Defillips 1991, Jain 1996, Katewa & Arora 1997, Singh 1999, Jain *et al.* 2005a, 2005b, Katewa & Galav 2005, Kala *et al.* 2006, Jain *et al.* 2008, 2010, Hussain *et al.* 2010, Kapoor & Lakhera 2013).

## MATERIAL AND METHODS

### Study area

Jhunjhunu District is situated between 27° 38' and 28° 31' North latitudes and 75° 02' and 76° 06' East longitudes and covers 5928 Km<sup>2</sup> of geographical area (Fig. 1). It is characterized by dry climate with the hot season somewhat milder than in the adjoining district to the North and North-west of the state. The maximum temperature is 48°C and it falls below the freezing point in winter. Total annual rainfall is 300–400 mm. Jhunjhunu Beed is surrounded by Desusur village in the north; Samaspur village in the south; Charanwas village in the east; surrounding agricultural land and Jhunjhunu city in the west. In the rainy season, the forest is become luxurious and rich in vegetation and enriched many medicines, rare, local and threatened plants. The total area of Jhunjhunu Beed is 1047.48 Hectare. It has been declared a conservation desert by the state Government's wild notification vide F3 (47) VAN/2008 Date 09-03-2012. This reserve area is the heart of Jhunjhunu City due to having a nearby location to city headquarter (Anonymous 2015).



**Figure 1.** Location map of Jhunjhunu and Jhunjhunu Beed of Rajasthan, India.

### Data collection

Field trips were conducted by visiting the interior area of Beed Jhunjhunu with the help of local people and Vaidya. The rural area were also visited and discussed about the healing properties of a particular plant's species and several information were given by the traditional healers on such properties. Literature shows about the use of one plant's part of a particular species while the traditional healers disclosed about the medicinal uses of other parts also which were not mentioned in the literature. There are two categories of practitioners of traditional medicine in our society. One is who have some primary knowledge of medicinal plant on behalf of social background and traditional use. And second is who have completed their graduation and master's degree in Ayurveda medicine. There are several 'Vaidya' and 'Hakims' in our society who have sufficient knowledge of medicinal plant and they generally prescribe the medicine on behalf of their traditional as well as paternal use of Ayurveda medicine. The other category of folk healers are the 'villagers' and the 'rural folks', in which mostly the 'elderly man and woman'. However, during field survey, the meetings were also conducted with younger folk practitioners of the village. They also have good knowledge about the use of medicinal plants in their locality. The woman folk healers also perform the task of 'birth-attendants' on behalf of their paternal knowledge, they also known as 'Daie' in rural area specially. The species were identified with the help of reputed literature (Shetty & Singh 1987, Shetty & Singh 1991, Shetty & Singh 1993, Bhandari 1995). The plant

specimen were deposited in the Herbarium of Department of Botany, University of Rajasthan, Jaipur.



**Figure 2.** A, Dry stem of *Acacia catechu* (L.f.) Willd.; B, Dry stem of *Achyranthus aspera* L.; C, Dry Stem of *Ficus religiosa* L.; D, Dry Whole plant of *Desmostachya bipinnata* (L.) Stapf; E, Dry Whole plant of *Cynodon dactylon* (L.) Pers; F, Dry Stem of *Calotropis procera* (Ait) Ait.; G, Dry powder of *Euphorbia hirta* L.; H, Dry Powder of *Barleria prionitis* L.; I, Dry Fruit of *Azadirachta indica* A. Juss.; J, Dry Pod powder of *Acacia nilotica* (L.) Delile; K, Dry fruit of *Prosopis cineraria* (L.) Druce L. Dry Bark powder of *Acacia nilotica* (L.) Delile; M, Dry Gum of *Acacia senegal* Willd.; N, Dry whole plant *Fagonia indica* L.; O, Dry whole plant of *Ocimum sanctum* L.; P, Dry *Aloe vera* (L.) Burm. f.; Q, Dry Tuber of *Asparagus racemosus* Willd.; R, Dry Fruits of *Abrus precatorius* L.; S, Dry Seed of *Datura stramonium* L.; T, Dry Bark of *Tecomella undulate* (Sm.) Seem; U, Dry Stem of *Tinospora cordifolia* (Willd.) Miers; V, Dry Fruit of *Pedaliium murex* L.; W, Dry Root of *Withania somnifera* Dunal; X, Dried fruits of *Emblca officinales* Gaert.

## RESULT AND DISCUSSION

In the present paper, the emphasis was laid only on less known ethno uses of plants with a different mode of application of many plants were recorded, only 53 plant's species belongs 35 families have been selected from the study area (Table 1). During the survey, the medicinal value of plants was discussed with different age groups at different localities of the areas. Individuals aged 50–60 years have more traditional knowledge about medicinal plants.

In the present investigation that some species have the property of curing kidney disorder and urinary disorder by using plant species like, *Emblica officinalis* Gaertn, *Boerhavia diffusa* L., *Acacia nilotica* (L.) Delile, *Achyranthus asper* L., *Cassia occidentalis* L., *Chenopodium album* L., *Citrullus colocynthis* (L.) Schard, *Pedalium murex* L., *Tribulus terrestris* L., *Tinospora cordifolia* (Willd.) Miers and some plants are used in curing diabetes like, *Azadirachta indica* A. Juss., *Cassia occidentalis* L., *Calotropis procera* (Ait) Ait. F., *Ficus benghalensis* L., *Acacia senegal* willd, *Leptadenia pyrotechnica* (Farssk.) Decne., *Momordica balsamina* L., *Solanum nigrum* L., *Tecomella undulata* (Sm.) Seem. Some plant species have the property of curing jaundice like, *Abrus precatorius* L., *Barleria prionitis* L., *Cassia occidentalis* L., *Chenopodium album* L., *Citrullus colocynthis* (L.) Schard., *Cynodon dactylon* (L.) Pers., *Leucas aspera* (Willd.) Link, *Ricinus communis* L., *Tecomella undulata* (Sm.) Seem, *Tinospora cordifolia* (Willd.) Miers. While, *Abrus precatorius* L., *Calotropis procera* (Ait) Ait. F., *Leucas aspera* (Willd.) Link, *Fagonia indica* L. are used in leprosy. While some plant's species are used in curing arthritic diseases, skin diseases, old fever like, *Aloe vera* L., *Abrus precatorius* L., *Azadirachta indica* A. Juss., *Achyranthus asper* L., *Cassia occidentalis* L., *Cynodon dactylon* (L.) Pers., *Fagonia indica* L., *Ocimum sanctum* L., *Tecomella undulata* (Sm.) Seem, *Withania somnifera* Dunal. Other plants of ethno importance, occurring in Jhunjhunu beed have the property for curing a wide range of diseases and disorders related to anemia, respiratory system, constipation, liver ailments, leprosy, animal bites, parasite related problems, rheumatism, dysentery, diseases of eye, ear and teeth etc. (Table 1). Some ethno plants are used as common for different kind of ailments. The ethnomedicinal plants and their useful parts are dried and stored for further use by the local traditional practitioners (Fig. 2).

The present study reveals that the flora of Jhunjhunu Beed is rich in ethno plant's diversity. Some rare and threatened plants like *Ephedra foliata* Boiss. & Kotschy ex Boiss., *Ceropegia bulbosa* L., *Leptadaenia reticulate* (Retz.) Wight & Arn, *Abutilon fruticosum* Guill. & Perr. and *Tecomella undulate* (Sm.) Seem. have also recorded at few sites of the Jhunjhunu Beed. However, the local people had informed about their widespread occurrence in the area at several locations sometimes ago. Due to over exploitation, the existence of these species are under threat. Immediate steps are being taken for their protection and sustainable utilization by govt. authorities. (Jeph & Khan 2019). Among the recorded species most of the plants were indigenous but some exotic plants were also present in the area like as *Prosopis juliflora* (Sw) DC was intentionally introduced into the area as a hard invasive species, but now it has serious threat for ethno medicinal flora. As the ethno plant is the resource for medicine, it needs to be conserved for human welfare and it is necessary for coming generations. The findings of this study can provide useful clues for medicines, as well as for mankind. The present study is carried out to create awareness about the ethno value of the plants.

**Table 1.** List of ethnomedicinal plant species.

S.N.	Botanical Name	Family	Local Name	Parts Use	Ethnomedicinal uses
1	<i>Abrus precatorius</i> L.	Fabaceae	Chirmi/ Ratti	Leaves, seed, root	Joint pain, paralysis, skin disease, tetanus, rabies, fever, cough, cold, jaundice, nerve tonic, leprosy, anti-allergic
2	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Kanghi	Root, bark, leaf, seed	Uterine haemorrhagic discharges, febrifuge, anthelmintic, diuretic, alexiteric. toothache, boils, lumbago, chest troubles, bronchitis, piles, gonorrhoea
3	<i>Acacia catechu</i> (L. f.) Willd.	Mimosaceae	Katha	Leaves, stem, bark, root	Tumours, gonorrhoea, asthma, menorrhoea, vomiting
4	<i>Acacia nilotica</i> (L.) Delile	Fabaceae	Babul	Bark, latex, gum, pods, leaves and seeds	Cholera, on burn, urine-genital diseases, toothache, colic pain, scorpion sting, ulcers.

5	<i>Acacia senegal</i> Willd	Fabaceae	Kumbat	Bark, flower, gum	Demulcent, emollient, inflammation, haemorrhage, intestinal mucous, diabetes
6	<i>Achyranthus asper</i> L.	Amaranthaceae	Chirchita/Latjira	Leaves, root, seed, whole plant	Diuretic, astringent, laxative, skin diseases, astringent, dropsy, piles, eruption, colic, gonorrhoea, pneumonia, hydrophobia, urinary problems, stomach ache, rheumatic pain, stones of bladder
7	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Beal	Bark, leaf, fruit	Abdominal pain, heart palpitation, urinary troubles, hypochondriasis, laxative, febrifuge, ophthalmic, dysentery, diarrhoea, deafness
8	<i>Aerva javanica</i> (Burm. f.) Shult	Amaranthaceae	Bui	Whole plant	Decoction for swelling, digestive disorders, promote urination
9	<i>Agave americana</i> L.	Agavaceae	--	Root, Leaf, gum	Diuretic, diaphoretic, anti-syphilitic
10	<i>Aloe vera</i> (L.) Burm. f.	Liliaceae	Gheeganwar	Whole plant	Digestive disorders, arthritis, rheumatism, skin disorder, asthma and chronic bronchitis
11	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Choulai	Leaves, roots	Laxative, abortifacient, constipation, stomach ache, wounds, boils, diarrhoea, diuretic, gonorrhoea, eczema, leucorrhoea
12	<i>Argemone mexicana</i> L.	Papaveraceae	Satyanasi	Whole plant	Diuretic, purgative, aphrodisiac, strangury, leucoderma, cure piles, ring worm, eczema, scorpion bite, constipation flatulence, abdominal colic pain, respiratory diseases, blood purifier, joint pain
13	<i>Asparagus adscendens</i> Roxb.	Liliaceae	Safed musli	Rhizome	Rejuvenate, blood vitalising disorder, burning sensation properties
14	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Satavari	Tuber	Rejuvenate, cold, tonic, galactagogue, anaemia, weakness, aging debility, dysentery, tuberculosis, burning micturition, joint pain, epilepsy, tuberculosis, cure piles
15	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Leaf, flower, fruit, bark, seed, oil	Blood purifier, antitoxin, antibacterial, antiviral herb, skin diseases, blood disorder, rheumatism, diabetes, scabies, malarial fever
16	<i>Barleria prionitis</i> L.	Acanthaceae	Bajradanti	Leaf, root, Whole plant	Cust, rat poisoning, nervous system, diuretic, fever, rheumatism, liver disease, indigestion, constipation, jaundice, toothache, joint pain, toothache
17	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Sata/Punarnava	Whole Plant	Astringent, biliousness, anaemia, leucorrhoea, inflammation, blood purifier, scorpion bite, kidney troubles, promote urination, diarrhoea, diarrhoea, vomiting, night blindness
18	<i>Calotropis procera</i> (Ait) Ait. F.	Asclepidaceae	Aak	Roots, bark, flowers, latex, leaf	Malarial fever, tuberculosis, asthma, cough, abdomen pain, antitode, diabetes, malaria fever, destroy guinea worm in intestine, rheumatic joints, cure migraine, cure leprosy, scorpion sting, cure deafness, indigestion
19	<i>Capparis decidua</i> (Farssk.) Edgew	Capparidaceae	Kair	Root, bark, flowers, fruit	Rheumatism, toothache, cardiac complaints, cure piles, improve digestive system, toothbrush, anti-cholesterol, joint pain, cough, asthma, respiratory problems

20	<i>Cassia occidentalis</i> L.	Caesalpiaceae	Kesundo	Root, Bark	Skin diseases, astringent. anthelmintic, diabetes and urinary disorders, ophthalmic, conjunctivitis, heart disease, jaundice, cure filariasis
21	<i>Chenopodium album</i> L.	Chenopodiaceae	Bathua	Seeds	Skin diseases, urinary trouble, colic worms, cardiac disorders, jaundice, anaemia
22	<i>Citrullus colocynthis</i> (L.) Schard.	Cucurbitaceae	Gartoomba/ Tumba	Roots, fruits	Jaundice, purgative, cure scrotal enlargement, cure warts, premature ejaculation, cure osteo-arthritis, earache, constipation, stomach-ache, cure scrotal enlargement, kidney pain, cure jaundice, relive mastalsia
23	<i>Cleome gynandra</i> L.	Capparidaceae	Safed hulhul	Leaves, seeds, root	Typhus fever, cough, headache, skin disease, scorpion sting, cure earache
24	<i>Commelina benghalensis</i> L.	Commelinaceae	Moriya bati	Whole plant	Leprosy, liver complaints, sunstroke, malarial fever
25	<i>Cucumis melo</i> L.	Cucurbitaceae	Kachri	Fruits, seeds	Digestive, increase immunity, ophthalmic, bronchitis, chronic fever, burning sensation
26	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Dubghas	Whole plant, roots	Piles, Chronic gleet, stomach-ache, Menstrual disorders, dysentery. skin disease, jaundice, astringent
27	<i>Cyperus rotundus</i> L.	Cyperaceae	Nagarmoth	Tuber	Menstruation, problem, scabies, eczema, dyspepsia, in worms, Fragrant, astringent, diuretic, fever, cough, diarrhoea, galactagogue, stimulant, diuretic, stomach complaints
28	<i>Cyperus triceps</i> (Rottb) Endl.	Cyperaceae	Chuhe ki Dadi	Roots	Liver stimulation, decoction for fever
29	<i>Datura stramonium</i> L.	Solanaceae	Kantawala-datura	Leaf, Flower, Seed	Asthma, in ophthalmology, snake bite, fever, worms, cure rabies, breast pain
30	<i>Desmostachya bipinnata</i> (L.) Stapf	Poaceae	Dab/Kusha	Whole plant, Root	Dysentery, menorrhagia, diuretic
31	<i>Emblica officinales</i> Gaertn	Phyllanthaceae	Amalaki	Dried fruit	Hyperacidity, bleeding disorder, urinary ailments, anaemia, antioxidants which contain vitamin-C, rejuvenator
32	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Laldhudi	Aerial part	Worms, asthma, bronchial infection, typhoid, vomiting, ulcers, eczema, scabies, pimples, galactagogue
33	<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Vishnukranta	Whole plant	Febrifuge, enhance memory, asthma, brain tonic, psychosomatic disorder, epilepsy, hysteria, fever, syphilis, cooling properties, intestinal amoebiasis, leucorrhoea, enlargement of spleen
34	<i>Fagonia indica</i> L.	Zygophyllaceae	Dhamaso	Whole plant	Anti-oxidant, anti-microbial, astringent, anti-tumor, wound healing, analgesic, anti-allergic, skin disease, sores, leprosy, fever
35	<i>Ficus benghalensis</i> L.	Moraceae	Bargad	Tender ends of the aerial roots, latex fruits, buds leaves, bark	Obstinate vomiting, piles, boils and blisters, sexual debility, spermatarrhoea, diarrhoea, cough, toxemia, diabetes, rheumatism, lumbago, eye tonic, fractured bone, vomiting, leucorrhoea, gonorrhoea, skin diseases, wound, female infertility, astringent, ophthalmic

36	<i>Ficus religiosa</i> L.	Moraceae	Pipal	Bark, fruit, latex, tender leaf	Typhoid, pneumonia, carbuncles, toothache, arthritis, wounds, burns, laxatives, female sterility, astringent, skin disease, asthma, refrigerant, haematuria, bleeding piles
37	<i>Leptadenia pyrotechnica</i> (Farssk.) Decne	Asclepidaceae	Khimp	Whole plant	Wound healing, skin disease, rheumatoid arthritis, diabetes, gastric problems, constipation
38	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Paniharin	Leaves, flowers	Jaundice, fevers, ulcers, intestinal, painful swelling, eczema, warts, headache, migraine, abdominal pain, gastric complaints, leprosy, chicken pox, cough, colds
39	<i>Momordica balsamina</i> L.	Cucurbitaceae	Karela	Fruits	Cathartic, diabetes
40	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulsi	Whole plant	Cough, cold, fever, burns, wounds, skin disease, forehead, ringworm, respiratory tracts infection, indigestion, wound, earache, conjunctivitis, anti-poisoning
41	<i>Pedaliium murex</i> L.	Pedaliaceae	Bada Gokhru	Fruits, leaves, root	Gonorrhoea, dysuria, renal calculi, haematuria, growth of hair, rheumatoid arthritis, sexual debility, lumbago, dysuria, tonic, urinary disorders, burning micturition
42	<i>Phyllanthus niruri</i>	Euphorbiaceae	Bhui-anwla	Whole plant	Urine-genital disease, gonorrhoea, dropsy
43	<i>Prosopis cineraria</i> (L.) Druce	Feabaceae	Khejri/janti	Inflorescence, flowers, bark, fruit	Rheumatism, miscarriage, fruits in pregnancy, piles, increase memory power, infertility, against abortion, injury
44	<i>Ricinus communis</i> L.	Euphorbiaceae	Erand	Leaves, seeds, carbuncle, oil, root	Rheumatism, healing properties, cure paralysis, rheumatism, joint pain, backache, jaundice, cure piles, wounds, eczemas, contraceptive
45	<i>Salvadora persica</i> L.	Salvadoraceae	Jhal/Chotapilu	Roots, bark, seed, leaf, fruit	Asthma, gonorrhoea, gastric problems, rheumatism, scurvy, blisters, constipation, stomach-ache, piles, tumours, ascites, joint pain, indigestion, pyorrhoea, protect sunlight
46	<i>Solanum indicum</i> L.	Baigan Kateli	Seeds		Toothache, anorexia, dysuria, alopecia, digestion, cough
47	<i>Solanum nigrum</i> L.	Solanaceae	Makoy	Whole plant	Dysentery, fever, narcotic, psoriasis, blood purifier, cure fever, cure vomiting, cough, cold, skin disease, greying hair, rejuvenator, swelling, body pain, liver and spleen, enlargement, antiseptic, diuretic, anti-diabetic, cough, eye, ear and nose disease, throat burning, liver inflammation, chronic fever
48	<i>Tecomella undulata</i> (Sm.) Seem	Bignoniaceae	Rohida	Bark	Syphilis and leucorrhoea, jaundice, eye disease, cough, cold, fever, skin disease, eczema, abscesses, tooth brush, fever
49	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Guduchi	Stem	Most versatile Rejuvenate, herb, diabetes, malaria fever, vomiting, urinary problems, gout, leucorrhoea, chronic fever, gastritis disorder, pneumonia, rheumatism, jaundice

50	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Bhankari	Roots, leaves, fruits	Stomach-ache, tonic, urinary complaints, diuretic, anti-gout properties, dysuria, anuria, urinary stones, increase sexual power, gonorrhoea, haematuria, growth of hair, rheumatoid arthritis, diuretic, tonic, cough, scabies, stomachic problems, diabetes
51	<i>Withania somnifera</i> Dunal	Solanaceae	Ashawgandha	Roots, leaves	Sexual weakness, cough, dropsy, diuretic, inflammatory, anti- arthritis, rejuvenator, tonic, analgesic and trauma, anxiety, heart disease, diabetes, asthma, bronchitis, swelling, boils eczema, rheumatic pain, skin disease, leucorrhoea, rickets, tumours, anti-bacterial, respiratory, urino-genital disorders, diuretic, blood purifier, promote urination, ulcers
52	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Ber/ bordi	Whole plant	Pain, wound healing, blood purifier, constipation, pyorrhoea, fever, skin disease, cold, dysentery, cough inflammation in gums, indigestion
53	<i>Ziziphus nummularia</i> (Burm.f.) Wt. Arn	Rhamnaceae	Jhadi-ber	Leaves, fruits	Biliousness, astringent, cooling, vigour, asthma, eye disease, bone joining, toothache, cold, cough, paralysis, pyorrhoea, dysentery, hair fall, skin disease, regularize menstruation., rodents

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