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

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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.

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, Upnishada 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, Kanjari, 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, Caesalpiniaaceae, Pedaliaceae, Fabaceae, Meliaceae, Asclepiadaceae, Nyctaginaceae, Euphorbiaceae, Euphorbiaceae, Rhamnaceae and Salvadoreaee 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 Km² 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 48ºC 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 Jhujhunu 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 Achyranthes 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 wild.; 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 Wild.; 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 (Wild.) Miers; V, Dry Fruit of Pedalium murex L.; W, Dry Root of Withania somnifera Dunal; X, Dried fruits of Emblica officinalis 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, Acyranthus 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 bengalensis L., Acacia senegal wildd, 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 (Willld.) 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., Acyranthus 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., Ceropedia bulbosa L., Leptadenia reticulate (Retz.) Wight & Arn, Abutilon fruticosum Guill. & Perr. and Tecomella undulata (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    | Abrus precatorius L.      | Fabaceae       | Chirmi/    | Leaves,   | Joint pain, paralysis, skin disease, tetanus, rabies, fever, cough, cold, jaundice, nerve tonic, leprosy, anti-allergic |
|      |                           |                | Ratti      | seed, root|                                                          |
| 2    | Abutilon indicum (L.) Sweet | Malvaceae    | Kanghi     | Root, bark, leaf, seed | Uterine haemorrhagic discharges, febrifuge, anthelmintic, diuretic, alexiteric. toothache, boils, lumbago, chest troubles, bronchitis, piles, gonorrhoea |
| 3    | Acacia catechu (L. f.) Willd. | Mimosaceae | Katha      | Leaves, stem, bark, root | Tumours, gonorrhoea, asthma, menorrhea, vomiting |
| 4    | Acacia nilotica (L.) Delile | Fabaceae      | Babul      | Bark, latex, gum, pods, leaves and seeds | Cholera, on burn, urine-genital diseases, toothache, colic pain, scorpion sting, ulcers |
| No. | Species                          | Family      | Part(s)                | Use(s)                                                                 |
|-----|----------------------------------|-------------|------------------------|----------------------------------------------------------------------|
| 5   | Acacia senegal willd.            | Fabaceae    | Kumbat, Bark, flower,  | Demulcent, emollient, inflammation, haemorrhage, intestinal mucous,  |
|     |                                  |             | gum                    | diabetes                                                             |
| 6   | Achyranthes asper L.             | Amaranthaceae| Chirchita/Leaves,      | Diuretic, astringent, laxative, skin diseases. astringent, dropsy,    |
|     |                                  |             | root, seed, whole plant| piles, erupition, colic, gonorrhoea, pneumonia, hydrophobia, urinary  |
|     |                                  |             |                        | problems, stomach ache, rheumatic pain, stones of bladder             |
| 7   | Aegle marmelos (L.) Corr.        | Rutaceae    | Beal, Bark, leaf, fruit| Abdominal pain, heart palpitation, urinary troubles, hypochondriasis,|
|     |                                  |             |                        | laxative, febrifuge, ophthalmic, dysentery, diarrhoea, deafness       |
| 8   | Aerva javanica (Burm. f.) Shult  | Amaranthaceae| Bui, Whole plant       | Decoction for swelling, digestive disorders, promote urination        |
| 9   | Agave americana L.               | Agavaceae   | --, Root, Leaf, gum    | Diuretic, diaphoretic, anti-syphilitic                                |
| 10  | Aloe vera (L.) Burm. f.          | Liliaceae   | Gheeganwar, Whole plant| Digestive disorders, arthritis, rheumatism, skin disorder, asthma and|
|     |                                  |             |                        | chronic bronchitis                                                   |
| 11  | Amaranthus spinosus L.           | Amaranthaceae| Choulai, Leaves, roots  | Laxative, abort faint, constipation, stomach ache, wounds, boils,    |
|     |                                  |             |                        | diarrhoea, diuretic, gonorrhoea, eczema, leucorrhoea                  |
| 12  | Argemome mexicana L.             | Papavaraceae| 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  | Asparagus adscendens Roxb.       | Liliaceae   | Safed musli, Rhizome   | Rejuvenate, blood vitalising disorder, burning sensation properties  |
| 14  | Asparagus racemosus Willd.       | Asparagaceae| Satavari, Tuber         | Rejuvenate, cold, tonic, galactogogue, anaemia, weakness, aging debutility, dysentery, tuberculosis, burring micturition, joint pain, epilepsy, tuberculosis, cure piles |
| 15  | Azadirachta indica A. Juss.      | Meliaceae   | Neem, Leaf, flower,    | Blood purifier, antitoxin, antibacterial, antiviral herb, skin diseases, blood disorder, rheumatism, diabetes, scabies, malarial fever |
|     |                                  |             | fruit, bark, seed, oil |                                                                      |
| 16  | Barleria prionitis L.            | Acanthaceae | Bajradanti, Leaf, root,| Cust, rat poisoning, nervous system, diuretic, fever, rheumatism, liver disease, indigestion, constipation, jaundice, toothache, joint pain, toothache |
|     |                                  |             | Whole plant             |                                                                      |
| 17  | Boerhavia diffusa L.             | Nyctaginaceae| Sata/Punarnava, Whole   | Astringent, biliousness, anaemia, leucorrhoea, inflammation, blood    |
|     |                                  |             | plant                   | purifier, scorpion bite, kidney troubles, promote urination, diarrhoea, diarrhoea, vomiting, night blindness |
| 18  | Calotropis procera (Ait) Ait. F. | Asclepiadaceae| Aak, Roots, bark,      | Malarial fever, tuberculosis, asthma, cough, abdomen pain, antidote,  |
|     |                                  |             | flowers, latex, leaf    | diabetes, malaria fever, destroy guinea worm in intestine, rheumatic joints, cure migraine, cure leprosy, scorpion sting, cure deafness, indigestion |
| 19  | Capparis decidua (Farssk.) Edgew | Capparidaceae| Kair, Root, bark,      | Rheumatism, toothache, cardiac complaints, cure piles, improve         |
|     |                                  |             | flowers, fruit          | digestive system, toothbrush, anti-cholesterol, joint pain, cough,    |
|     |                                  |             |                        | asthma, respiratory problems                                        |
| No. | Species | Family | Common Name(s) | Part(s) Used | Uses |
|-----|---------|--------|----------------|-------------|------|
| 20  | *Cassia occidentalis* L. | Caesalpiniaceae | Kesundo | Root, Bark | Skin diseases, astringent, helminthic, diabetes and urinary disorders, ophthalmic, conjunctivitis, heart disease, jaundice, cure filariasis |
| 21  | *Chenopodium album* L. | Chenopodiaceae | Bathua | Seeds | Skin diseases, urinary trouble, colic worms, cardiac disorders, jaundice, anaemia |
| 22  | *Citrus colocynthis* (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 mastalisa |
| 23  | *Cleome gynandra* L. | Capparidaceae | Safed hulhul | Leaves, seeds, root | Typhus fever, cough, headache, skin disease, scorpion sting, cure earache |
| 24  | *Commelina benghalensis* L. | Commelinaceae | Moriya bati | Whole plant | Leprosy, liver complaints, sunstroke, malarial fever |
| 25  | *Cucumis melo* L. | Cucurbitaceae | Kachri | Fruits, seeds | Digestive, increase immunity, ophthalmic, bronchitis, chronic fever, burning sensation |
| 26  | *Cynodon dactylon* (L.) Pers. | Poaceae | Dubghas | Whole plant, roots | Piles, Chronic gleet, stomach-ache, Menstrual disorders, dysentery, skin disease, jaundice, astringent |
| 27  | *Cyperus rotundus* L. | Cyperaceae | Nagarmoth | Tuber | Menstruation, problem, scabies, eczema, dyspepsia, in worms, Fragrant, astringent, diuretic, fever, cough, diarrhoea, galactagogue, stimulant, diuretic, stomach complaints |
| 28  | *Cyperus triceps* (Rotth) Endl. | Cyperaceae | Chuhe ki Dadi | Roots | Liver stimulation, decoction for fever |
| 29  | *Datura stramonium* L. | Solanaceae | Kantawala-datura | Leaf, Flower, Seed | Asthma, in ophthalmology, snake bite, fever, worms, cure rables, breast pain |
| 30  | *Desmostachya bipinnata* (L.) Stapf | Poaceae | Dab/Kusha | Whole plant, Root | Dysentery, menorrhagia, diuretic |
| 31  | *Emblica officinalis* Gaertn | Phyllanthaceae | Amalaki | Dried fruit | Hyperacidity, bleeding disorder, urinary ailments, anaemia, antioxidants which contain vitamin-C, rejuvenator |
| 32  | *Euphorbia hirta* L. | Euphorbiaceae | Laldhudi | Aerial part | Worms, asthma, bronchial infection, typhoid, vomiting, ulcers, eczema, scabies, pimples, galactagogue |
| 33  | *Evolvulus alsinoides* 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  | *Fagonia indica* L. | Zygophyllaceae | Dhamaso | Whole plant | Anti-oxidant, anti-microbial, astringent, anti-tumor, wound healing, analgesic, anti-allergic, skin disease, sores, leprosy, fever |
| 35  | *Ficus benghalensis* L. | Moraceae | Bargad | Tender ends of the aerial roots, latex, fruits, buds leaves, bark | Obstinate vomiting, piles, boils and blisters, sexual debility, spermattarhhea, diarrhoea, cough, typhoid, diabetes, rheumatism, lumbago, eye tonic, fractured bone, vomiting, leucorrhoea, gonorrhoea, skin diseases, wound, female infertility, astringent, ophthalmic |
| No. | Scientific Name                  | Family       | Part                      | Uses                                                                 |
|-----|---------------------------------|--------------|---------------------------|----------------------------------------------------------------------|
| 36  | Ficus religiosa L.              | Moraceae     | Pipal, latex, tender leaf | Typhoid, pneumonia, carbuncles, toothache, arthritis, wounds, burns, laxatives, female sterility, astringent, skin disease, asthma, refrigerant, haematuria, bleeding piles |
| 37  | Leptadenia pyrotechnica (Farssk.) Decne | Asclepiadaceae | Khimp, Whole plant | Wound healing, skin disease, rheumatoid arthritis, diabetes, gastric problems, constipation |
| 38  | Leucas aspera (Willd.) Link     | Lamiaceae    | Paniharin, flowers        | Jaundice, fevers, ulcers, intestinal, painful swelling, eczema, warts, headache, migraine, abdominal pain, gastric complaints, leprosy, chicken pox, cough, colds |
| 39  | Momordica balsamina L.          | Cucurbitaceae | Karela, Fruits            | Cough, cold, fever, burns, wounds, skin disease, forehead, ringworm, respiratory tracts infection, indigestion, wound, earache, conjunctivitis, anti-poisoning |
| 40  | Ocimum sanctum L.               | Lamiaceae    | Tulsi, Whole plant        | Cough, cold, fever, burns, wounds, skin disease, headache, migraine, abdominal pain, gastric complaints, leprosy, chicken pox, cough, colds |
| 41  | Pedaliun murex 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  | Phyllanthus niruri              | Euphorbiaceae| Bhuianwla, Whole plant    | Urine-genital disease, gonorrhoea, dropsy |
| 43  | Prosopis cineraria (L.) Druce   | Feabaceae    | Khejri/Janti, Inflorescences, flowers, bark, fruit | Rheumatism, miscarriage, fruits in pregnancy, piles, increase memory power, infertility, against abortion, injury |
| 44  | Ricinus communis L.             | Euphorbiaceae| Erand, leaves, seeds, carbuncle, oil, root | Rheumatism, healing properties, cure paralysis, rheumatism, joint pain, backache, jaundice, cure piles, wounds, eczemas, contraceptive |
| 45  | Salvadora persica L.            | Salvadoraceae| Jhal/Chotapili, 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  | Solanum indicum L.              | Baigan Kateli| Seeds                    | Toothache, anorexia, dysuria, alopecia, digestion, cough |
| 47  | Solanum nigrum 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  | Tecomella undulata (Sm.) Seem    | Bignonaceae  | Rohida, Bark              | Syphilis and leucorrhoea, jaundice, eye disease, cough, cold, fever, skin disease, eczema, abscesses, tooth brush, fever |
| 49  | Tinospora cordifolia (Willd.) Miers | Menispermeaceae | Guduchi, Stem | Most versatile Rejuvenate, herb, diabetes, malaria fever, vomiting, urinary problems, gout, leucorrhoea, chronic fever, gastritis disorder, pneumonia, rheumatism, jaundice |
Tribulus terrestris 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

Withania somnifera 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, urinary-genital disorders, diuretic, blood purifier, promote urination, ulcers

Ziziphus mauritiana Lam.  
Rhamnaceae  
Ber/bordi  
Whole plant  
Pain, wound healing, blood purifier, constipation, pyorrhoea, fever, skin disease, cold, dysentery, cough inflammation in gums, indigestion

Ziziphus nummularia (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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