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## An ethno-botanical study of medicinal plants of Alwar district, Rajasthan

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### Abstract

A floristic survey of ethnomedicinal plants occurring in the study area was conducted from January 2019 to December 2021. This survey aims to identify and document the ethnomedicinal plants used amongst the indigenes of the Alwar district of Rajasthan, India. During the survey, 75 ethnomedicinal plant species belonging to 36 families have been recorded from the study area used by tribals and rural people of Alwar district to cure various diseases, such as cough, cold, fever, diarrhea, dysentery, asthma, rheumatism, skin diseases, wounds, boils, ulcers, inflammation, gastric disorder, urinary disorders, sexual weakness, gonorrhoea, leucorrhoea, anemia, etc. Out of 75 plant species, 26 are trees, 12 are shrubs, 36 are herbs and 01 is a climber. Fabaceae (13 species) was the dominant family among all families followed by Euphorbiaceae (05 species), Asteraceae, Malvaceae, Moraceae and Solanaceae (4 species each) and the most used plant part as medicine was noted being the leaves (26.83%), followed by root (15.45%), whole plant (14.63%) and fruit and bark (12.20%). In this paper, a list of ethnomedicinal plant species is given, together with their local names, plant part/s used, and therapeutic uses for effective control of various diseases.

**Keywords:** ethno-botanical, medicinal plants, traditional medicine, Alwar district, Rajasthan

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### Introduction

Plants are important parts of the ecosystem, and they play a significant role in the development of medicine and human health care. According to the WHO (World Health Organization), approximately 80% of people in the world still depend upon herbal medicines. WHO listed quite 21,000 plant species used for several medicinal purposes around the world [1]. India is enriched with various of medicinal plants and is considered a storehouse of medicinal plants. It is home to 7434 species of algae, 15447 species of fungi, 2786 species of bryophytes, 1307 species of pteridophytes, 82 species of gymnosperm and 18800 species of angiosperm [2]. Rajasthan is an herbal state with enriched diversity of the plant species and provides habitat to a significant number of medicinal plants. It is one of the largest States of India with a geographical area of 342,239 km<sup>2</sup> and is situated in the north-western part of the country. The floristic diversity of Rajasthan has been reviewed and documented earlier by many researchers [3-12]. In Rajasthan, much work has been done on ethnomedicinal plants used for various diseases by different tribal communities [13-19]. This research paper aims to collect valuable information about ethnomedicinal plants utilized by local communities of the Alwar district.

### Material and Methods

#### Study Area

The Alwar district is located between 27°4'- 28°4' north latitudes and 76°7'- 77° 13' east longitudes in the north-eastern part of Rajasthan. The district is spread across an 8380 km<sup>2</sup> area. Its greatest length from south to north is 137 km<sup>2</sup> and its greatest breadth from east to west is 110 km<sup>2</sup> approx. It is bounded by the district Gurgaon (Haryana) in the north, Dausa in the south, Jaipur in the south-west, and Bharatpur in the north-east. Alwar district comprises 17 Sub-Divisions, 20 tehsils, and 16 panchayat samitis (Fig.1). The vegetation of the Alwar district corresponds to the northern tropical dry deciduous forest and northern tropical thorn forest [20]. The most topographic feature in the Alwar district is the Aravalli Mountain range which runs for about 81 km. from south to north. The climate in this area is hot and dry. The summer season is from the middle of March to June and is extremely hot. The rainy season is from July to September with more than 90% of the rain received during this period. Winter extends from October to February. The average annual rainfall of the district is 668.6 mm.

#### Methods

A field survey of the study area was carried out from January 2019 to December 2021. Field sites were visited by the local medicine man, experienced people and village headmen. The plant specimens were collected during field trips and identified with the help of regional flora and using standard literature [4, 21-22]. The collected plant samples were pressed, dried and mounted on standard size herbarium sheets. Ethnomedicinal information about the medicinal properties, local plant name, usages, and parts used was collected through interviewing local villagers, village headmen, priests and tribal folks. To determine the authenticity of information collected during fieldwork, repeated verification of data from different informants and at different times was done.



Fig 1: Map of the study area.

## Result and Discussion

A list of ethnomedicinal plants with their local names, plant parts used and Medicinal uses for effective control of diverse ailments of ethnomedicinal plants are given. [Table 1, Fig 5]. In the present study, the ethnomedicinal use of 75 plant species belonging to 36 families has been reported [Table 2]. Out of 75 plants recorded from the study area, the habit of the majority of the plants was noted as herbs (48%) followed by Tree (34.67%), shrub (16%) and climber (1.33%) (Fig.3). In this study, Fabaceae was the most dominant family followed by Euphorbiaceae, Asteraceae, Malvaceae, Moraceae and Solanaceae (Fig.2). This study established that many different parts of medicinal plant species are used as medicine (root, rhizome, stem, leaves, whole plant, flower, fruit, seeds, bark, pod, gum, latex, etc.) but the most used plant part was leaves (26.83%), followed by root (15.45%), whole plant (14.63%) and fruit and bark (12.20%) [Figure 4]. In total 75, medicinal plants were used to cure various diseases, such as cough, cold, fever, diarrhea, dysentery, asthma, rheumatism, skin diseases, wounds, boils, ulcers, inflammation, gastric disorder, urinary disorders, sexual weakness, gonorrhea, leucorrhoea, anemia, etc.

**Table 1:** List of plant species with their medicinal uses.

Sr. No.	Botanical Name	Family	Local Name	Habit	Plant part used	Medicinal uses
1.	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Kanghi	Herb	Whole plant Leaves Flower	<ul style="list-style-type: none"> <li>▪ The decoction is used to cure gonorrhoea.</li> <li>▪ Leaves extract is applied locally to boils and ulcers.               <ul style="list-style-type: none"> <li>▪ Powdered flowers are used in cough.</li> </ul> </li> </ul>
2.	<i>Acacia leucophloea</i> (Roxb.) Willd.	Fabaceae	Ronjh	Tree	Leaves	<ul style="list-style-type: none"> <li>▪ Used to cure Urinary tract bleeding.</li> </ul>
3.	<i>Acacia nilotica</i> (L.) Del.	Fabaceae	Babool	Tree	Leaves Bark Pod Gum	<ul style="list-style-type: none"> <li>▪ The decoction of leaves and bark is used to cure sore throat and toothache.</li> <li>▪ Pod decoction is used in the treatment of urinogenital diseases.</li> <li>▪ Gum is used to prepare Laddus, which is used after delivery as a health tonic.</li> </ul>
4.	<i>Acacia senegal</i> (L.) Willd.	Fabaceae	Kumta	Tree	Gum Bark	<ul style="list-style-type: none"> <li>▪ Gum is used internally for inflammation of intestinal mucosa and externally to cover inflamed surfaces such as burns, sore nipples and nodular leprosy.</li> <li>▪ The bark decoction is beneficial as a gargle and mouth wash in throat infections.</li> </ul>
5.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Unga	Herb	Whole plant Leaves	<ul style="list-style-type: none"> <li>▪ The decoction is used to cure cough, cold and intermittent fever.</li> <li>▪ Leaves are used to treat asthma.</li> </ul>
6.	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bel	Tree	Leaves Fruit	<ul style="list-style-type: none"> <li>▪ The juice of leaves is used in diabetes.</li> <li>▪ Pulp of ripe fruit is used for dysentery, constipation and peptic ulcer.</li> </ul>
7.	<i>Albizia lebeck</i> (L.) Benth.	Fabaceae	Siris	Tree	Bark	<ul style="list-style-type: none"> <li>▪ Paste of stem bark is used in boils, pimples and ulcers.</li> </ul>
8.	<i>Anogeissus pendula</i> Edgew.	Combretaceae	Dhok	Tree	Bark	<ul style="list-style-type: none"> <li>▪ Decoction of bark is given for gastric disorder.</li> </ul>
9.	<i>Argemone mexicana</i> L.	Papaveraceae	Kateli	Herb	Whole plant Root Seed	<ul style="list-style-type: none"> <li>▪ Plant Juice is used for eye infections.</li> <li>▪ Roots are useful in chronic Skin disease.</li> <li>▪ Seeds are used to cure cold, cough, asthma and other respiratory problems.</li> </ul>
10.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Tree	Leaves Bark	<ul style="list-style-type: none"> <li>▪ Leaves are antiseptic used to wash for the healing of ulcers and wounds.</li> <li>▪ Paste of bark is applied on burnt portion for early healing.</li> </ul>
11.	<i>Bacopa monnieri</i> (L.)	Scrophulariaceae	Brahmi	Herb	Whole Plant	<ul style="list-style-type: none"> <li>▪ All parts are used to manage asthma.</li> </ul>
12.	<i>Balanites aegyptiaca</i> (L.) Del.	Balanitaceae	Hingot	Tree	Whole plant Fruit Seed	<ul style="list-style-type: none"> <li>▪ Whole plants are used for wound healing and respiratory disorder.</li> <li>▪ Pulp of Fruit is useful in skin diseases, leucoderma</li> </ul>

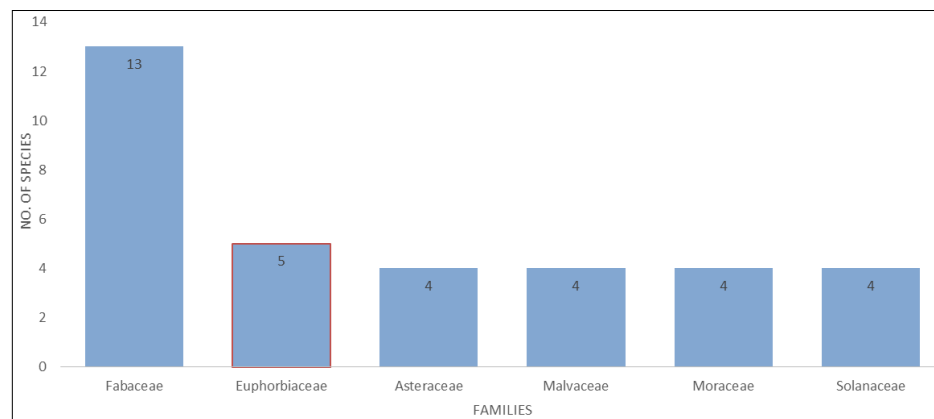
						and cough. ▪ Seed is used in earache and pimples.
13.	<i>Barleria prionitis</i> L.	Acanthaceae	Vajardanti	Herb	Whole Plant Leaves	▪ Twigs are used as a toothbrush. ▪ Decoction of the whole plant as a health tonic. ▪ Leaves powder is used as tooth powder
14.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Punernava	Herb	Root Leaves	▪ The root is used in night blindness. ▪ Leaves are used in reducing swelling, diuretic and urinary burning sensation.
15.	<i>Boswellia serrata</i> Roxb. ex Coleb.	Burseraceae	Salar	Tree	Bark Gum	▪ The bark is used in blood dysentery. ▪ Gum is used in rheumatism, skin diseases and urinary disorders.
16.	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Palas	Tree	Stem Fruit Seed	▪ Stem paste is applied to the affected parts for cuts & wounds. ▪ Fruit is used in correcting menstruation. ▪ Seeds are used to cure leucoderma.
17.	<i>Calotropis gigantea</i> (L.) R.Br	Asclepiadaceae	Sefad Aak	Shrub	Whole Plant	▪ All parts are used against bronchitis and asthma.
18.	<i>Calotropis procera</i> (Ait.) R.Br.	Asclepiadaceae	Aakda	Shrub	Leaves Latex	▪ Slightly roasted leaves are applied to rheumatism. ▪ Latex of this plant is used in the case of tuberculosis.
19.	<i>Capparis sepiaria</i> L.	Capparaceae	Jaal	Shrub	Leaves Fruit	▪ Decoction of leaves is used orally in blood purifier. ▪ The pastes of fruits are used externally on pain of joints.
20.	<i>Capparis decidua</i> (Forssk.) Edgew.	Capparaceae	Kair	Tree	Leaves Bark Fruit	▪ Juice of leaves and fruits- anticystic, bactericidal and fungicidal. ▪ The root bark is given orally in fever. ▪ Dried powdered fruits are given for cough and heart disease.
21.	<i>Cassia fistula</i> L.	Fabaceae	Amaltas	Tree	Leaves Fruit	▪ Leaf juice is used to cure stomachache and hepatitis. ▪ Decoction of fruit pulp is used in gastric disorders and constipation.
22.	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	Sadabahar	Herb	Whole plant Leaves	▪ Whole plant extract is used for the treatment of acute leukaemia. ▪ Extract of leaves is used as an antidote for wasp stings.
23.	<i>Cleome viscosa</i> Linn.	Capparaceae	Hulbul	Herb	Whole plant	▪ The paste of the whole plant is applied externally to heal ulcers and wounds.
24.	<i>Commiphora wightii</i> (Arn.) Bhandari	Burseraceae	Guggal	Tree	Bark	▪ The powder of stem bark is used to cure leucorrhoea.
25.	<i>Cordia dichotoma</i> Forst. f.	Ehretiaceae	Lisoda	Tree	Leaves	▪ Leaf ashes mixed with honey are recommended for

					Fruits	constipation. <ul style="list-style-type: none"> <li>Fruits are used as vegetables and are considered good for dysentery.</li> </ul>
26.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Dubghas	Herb	Whole plant Root	<ul style="list-style-type: none"> <li>Whole plant juice is used to cure diabetes. Juice is used as a nasal drop for migraine.</li> <li>Decoction of root is used as a diuretic and to cure skin diseases.</li> </ul>
27.	<i>Cyperus rotundus</i> L.	Cyperaceae	Motha	Herb	Rhizome	<ul style="list-style-type: none"> <li>The rhizome is used in stomach troubles.</li> </ul>
28.	<i>Dalbergia latifolia</i> Roxb.	Fabaceae	Shisam	Tree	Root Leaves	<ul style="list-style-type: none"> <li>The root is used in gonorrhoea</li> <li>Juice of leaves cures aphthous ulcers and is used as gargles for sore throat.</li> </ul>
29.	<i>Echinops echinatus</i> Roxb.	Asteraceae	Unt Kantara	Herb	Root	<ul style="list-style-type: none"> <li>Root extract is used to treat cold and cough.</li> </ul>
30.	<i>Eclipta prostrata</i> (L.) Linn.	Asteraceae	Bhrangra	Herb	Leaves	<ul style="list-style-type: none"> <li>The extract of the leaves is used in jaundice and is applied on scorpion bite portion as an antidote.</li> </ul>
31.	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Amla	Tree	Fruit Seed	<ul style="list-style-type: none"> <li>Fruit is used in digestive and other disorders, are a rich source of vitamin C.</li> <li>Fresh juice of the fruit is used in diseases of the eye, heart, scurvy, rheumatism, and in diarrhea.</li> <li>Seeds are used in the treatment of asthma, bronchitis, leucorrhoea and syphilis.</li> </ul>
32.	<i>Euphorbia caducifolia</i> Haines	Euphorbiaceae	Dandathor	Shrub	Root Latex	<ul style="list-style-type: none"> <li>The decoction of root is taken orally as an abortifacient.</li> <li>The latex of plant is used as an expectorant.</li> </ul>
33.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Dudhi	Herb	Root Leaves Latex	<ul style="list-style-type: none"> <li>Paste of root is mixed with honey and given to nursing mother to increase lactation.</li> <li>Decoction of leaves is used in asthma, cough, bronchitis, eczema and spermatorrhoea.</li> <li>Latex of plants is used in warts and skin diseases (leucodermal spots).</li> </ul>
34.	<i>Evolvulus alsinoides</i> (L.) Linn.	Convolvulaceae	Shank pushpi	Herb	Whole plant Flower	<ul style="list-style-type: none"> <li>Decoction of the whole plant is effective in fever, loss of memory and syphilis.</li> <li>Flowers are used to treating uterine bleeding.</li> </ul>
35.	<i>Ficus benghalensis</i> L.	Moraceae	Bargad	Tree	Leaves Fruit	<ul style="list-style-type: none"> <li>Leaf extract is taken orally in diarrhea.</li> <li>Fruit is used as a sexual stimulant.</li> </ul>
36.	<i>Ficus carica</i> L.	Moraceae	Anjir	Tree	Fruit	<ul style="list-style-type: none"> <li>Fruits are used in leprosy and nose bleeding.</li> </ul>
37.	<i>Ficus racemosa</i> L.	Moraceae	Gular	Tree	Bark	<ul style="list-style-type: none"> <li>Bark-decoction is used in skin diseases, inflammations, boils and ulcers.</li> </ul>
38.	<i>Ficus religiosa</i> L.	Moraceae	Pipal	Tree	Leaves	<ul style="list-style-type: none"> <li>Leaves are useful in healing wounds and treatment of</li> </ul>

					Bark	<p>skin diseases.</p> <ul style="list-style-type: none"> <li>The stem bark is used in the treatment of diarrhea, diabetes, leucorrhoea and inflammatory ulcers.</li> </ul>
39.	<i>Grewia tenax</i> (Forsk.) Fiori	Tiliaceae	-	Shrub	Bark Fruit	<ul style="list-style-type: none"> <li>The decoction of Stem bark is effective in cough and muscular pain.</li> <li>Decoction of fruit is used to cure asthma, cough and urinary problems.</li> </ul>
40.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Papad	Tree	Leaves	<ul style="list-style-type: none"> <li>Leaves paste is used for skin disease, Leaves are chewed to cure mouth sores.</li> </ul>
41.	<i>Ipomoea pes-tigridis</i> L.	Convolvulaceae	-	Herb	Whole plant	<ul style="list-style-type: none"> <li>Paste of Plant is locally applied to treat carbuncles and boils.</li> </ul>
42.	<i>Justicia adhatoda</i> L.	Acanthaceae	Adusa	Herb	Leaves	<ul style="list-style-type: none"> <li>Leaves extract mixed with ginger or honey and taken orally for bronchitis, severe asthma and cough.</li> </ul>
43.	<i>Lawsonia inermis</i> Linn.	Lytheraceae	Mehndi	Shrub	Leaves Bark	<ul style="list-style-type: none"> <li>Paste of leaves applied on soles relieves burning sensation.</li> <li>The bark is useful in the treatment of jaundice and liver enlargement.</li> </ul>
44.	<i>Moringa oleifera</i> Lam.	Moringaceae	Sahejana	Tree	Leaves Flower Fruit Seeds	<ul style="list-style-type: none"> <li>Paste of leaves heals wounds. <ul style="list-style-type: none"> <li>Flowers are used as tonic and diuretic.</li> </ul> </li> <li>The unripe pod is eaten as a vegetable and is useful as a circulatory stimulant.</li> <li>Seed oil is applied locally in acute rheumatism.</li> </ul>
45.	<i>Nerium oleander</i> L.	Apocynaceae	Kaner	Shrub	Root	<ul style="list-style-type: none"> <li>Root paste with water and are applied externally to chancre, ulcers and leprosy</li> </ul>
46.	<i>Nyctanthes arbor-tristis</i> L.	Nyctanthaceae	Parijat	Shrub	Leaves	<ul style="list-style-type: none"> <li>Leaves are antibacterial, anti-fungal, anti-inflammatory and anti-pyretic.</li> </ul>
47.	<i>Ocimum americanum</i> Linn.	Lamiaceae	Vantulsi	Herb	Whole Plant	<ul style="list-style-type: none"> <li>Whole plant juice is used to cure toothache, earache and headache.</li> <li>Decoction of whole plant is used to treat cough and fever.</li> </ul>
48.	<i>Ocimum basilicum</i> L.	Lamiaceae	Marwa	Herb	Leaves	<ul style="list-style-type: none"> <li>Leaves extract mixed with honey and taken orally to cure cough, cold and fever.</li> </ul>
49.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulsi	Herb	Leaves Seeds	<ul style="list-style-type: none"> <li>The juice of leaves mixed with black paper is given to cure intermittent fever.</li> <li>Leaves juice is used in bronchitis, skin diseases, earache, cough and cold. <ul style="list-style-type: none"> <li>Seeds are useful for the urinary system.</li> </ul> </li> </ul>
50.	<i>Pedaliium murex</i> L.	Pedaliaceae	Bara gokhru	Herb	Fruit	<ul style="list-style-type: none"> <li>Mucilaginous infusion of the fruit is given in</li> </ul>

						incontinence of urine, spermatorrhoea and impotence.
51.	<i>Phyllanthus niruri</i> Sensu Hook. f.	Euphorbiaceae	-	Herb	Leaves	<ul style="list-style-type: none"> <li>▪ Leaves mixed with salt are applied locally to skin affections.</li> </ul>
52.	<i>Physalis minima</i> L.	Solanaceae	Chirpoti	Herb	Leaves	<ul style="list-style-type: none"> <li>▪ Leaf juice is used in earaches.</li> </ul>
53.	<i>Prosopis cineraria</i> (L.) Druce	Fabaceae	Khejri	Tree	Fruits Flower	<ul style="list-style-type: none"> <li>▪ Fruits are used as a vegetable and are useful in arthritis and rheumatism.</li> <li>▪ Flowers are pounded and mixed with sugar and eaten by women during pregnancy as a safeguard against miscarriage.</li> </ul>
54.	<i>Ricinus communis</i> L.	Euphorbiaceae	Arandi	Shrub	Leaves	<ul style="list-style-type: none"> <li>▪ Leaf paste is used externally in pain of joints, swelling and skin disease.</li> <li>▪ The juice of the leaves is mixed with mustard oil and is applied locally to reduce menses pain,</li> <li>▪ Warm leaves are applied as bandages on the sprains.</li> </ul>
55.	<i>Senna occidentalis</i> (L.) Link	Fabaceae	-	Herb	Seed	<ul style="list-style-type: none"> <li>▪ Seed powder is used in case of a diabetic problem.</li> </ul>
56.	<i>Senna tora</i> (L.) Roxb.	Fabaceae	Pawar	Herb	Root Seed	<ul style="list-style-type: none"> <li>▪ The root is purgative.</li> <li>▪ Seed paste is used on ringworm.</li> </ul>
57.	<i>Sida acuta</i> Burm.	Malvaceae	Bala	Herb	Leaves	<ul style="list-style-type: none"> <li>▪ Leaf paste is used to heal cuts and wounds.</li> </ul>
58.	<i>Sida cordifolia</i> L.	Malvaceae	-	Herb	Root	<ul style="list-style-type: none"> <li>▪ Root with cow's milk showed improvement in Parkinson's patients.</li> </ul>
59.	<i>Sida rhombifolia</i> L.	Malvaceae	Atibala	Herb	Root	<ul style="list-style-type: none"> <li>▪ Root infusion is used to treat rheumatism and neurological complaints.</li> </ul>
60.	<i>Solanum nigrum</i> L.	Solanaceae	Makoi	Herb	Root	<ul style="list-style-type: none"> <li>▪ Roots with a small amount of sugar are boiled in water and are given to women to enhance fertility.</li> </ul>
61.	<i>Solanum surattense</i> Burm. f.	Solanaceae	Kateli	Herb	Whole plant Root	<ul style="list-style-type: none"> <li>▪ Whole plant extract is effective in bronchial asthma.</li> <li>▪ Root paste is given orally in scorpion stings.</li> </ul>
62.	<i>Sterculia uren</i> Roxb.	Sterculiaceae	Kadaya	Tree	Gum	<ul style="list-style-type: none"> <li>▪ Gum is used for constipation and to treat throat infections.</li> </ul>
63.	<i>Tamarindus indica</i> L.	Fabaceae	Imili	Tree	Leaves	<ul style="list-style-type: none"> <li>▪ Decoction of the leaves is used for throat infections.</li> </ul>
64.	<i>Tephrosia pumila</i> (Lam.) Pers.	Fabaceae	Chhota Pawar	Herb	Whole plant Root	<ul style="list-style-type: none"> <li>▪ Plant extract is given for liver disorders.</li> <li>▪ Decoction of root is useful for diarrhea, dyspepsia, rheumatism and urinary disorders.</li> </ul>
65.	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Sarphonka	Herb	Root	<ul style="list-style-type: none"> <li>▪ Decoction of the roots with ginger is consumed to relieve headaches.</li> </ul>
66.	<i>Thevetia peruviana</i> (Pers.) K. Schum	Apocynaceae	Pila-kaner	Shrub	Bark	<ul style="list-style-type: none"> <li>▪ A weak decoction of stem bark is used to treat intermittent fevers</li> </ul>
67.	<i>Tinospora cordifolia</i> (Willd.) Miers.	Menispermaceae	Neem Giloy	Climber	Whole plant Stem	<ul style="list-style-type: none"> <li>▪ Plant extract is widely used for the treatment of jaundice, urinary diseases, eye and liver ailments.</li> </ul>

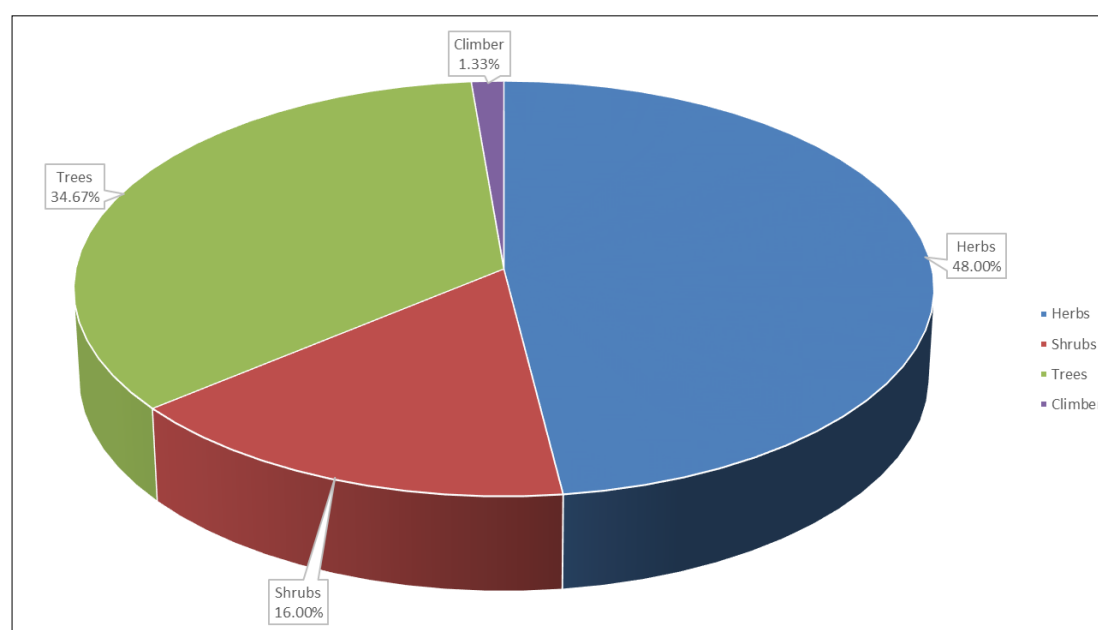
						<ul style="list-style-type: none"> <li>▪ Extract of plant is hypoglycemic.</li> <li>▪ Stem Juice is very useful for fever.</li> <li>▪ Fresh stem juice is used for rheumatic arthritis and gouts.</li> </ul>
68.	<i>Trianthema portulacastrum</i> L.	Aizoaceae	Santha	Herb	Root	<ul style="list-style-type: none"> <li>▪ Decoction of root is taken internally to treat constipation and asthma.</li> </ul>
69.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Gokhru	Herb	Fruit	<ul style="list-style-type: none"> <li>▪ Fruit powder is used for urinary disorders &amp; sexual weakness.</li> </ul>
70.	<i>Trichosanthes cucumerina</i> L.	Cucurbitaceae	Jangli-chichonda	Herb	Root	<ul style="list-style-type: none"> <li>▪ Decoction of root is used for bronchitis and heart diseases.</li> </ul>
71.	<i>Tridax procumbens</i> L.	Asteraceae	-	Herb	Leaves	<ul style="list-style-type: none"> <li>▪ Leaves are antiseptic applied for blood clotting.</li> </ul>
72.	<i>Verbesina encelioides</i> (Cav.) Benth. & Hook. f. ex Gray	Asteraceae	Nakli-Surajmukhi	Herb	Whole Plant	<ul style="list-style-type: none"> <li>▪ Infusion of the whole plant to reduce swelling.</li> </ul>
73.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Aswgandh	Shrub	Whole Plant Root	<ul style="list-style-type: none"> <li>▪ Whole plant increase sexual potency and fertility.</li> <li>▪ The tribals give root powder orally to male patients with asthma and bronchitis.</li> </ul>
74.	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Beri	Tree	Bark	<ul style="list-style-type: none"> <li>▪ Root bark decoction is used in diarrhea, dysentery, fever and toothache.</li> </ul>
75.	<i>Ziziphus nummularia</i> (Burn. F.) Wight & Arn.	Rhamnaceae	Jhad	Shrub	Leaves Bark Root	<ul style="list-style-type: none"> <li>▪ Dried leaves are used for cough and cold.</li> <li>▪ The bark is used in acidity, leucorrhoea and anemia.</li> <li>▪ Decoction of root is given in pyorrhoea and other tooth diseases.</li> </ul>

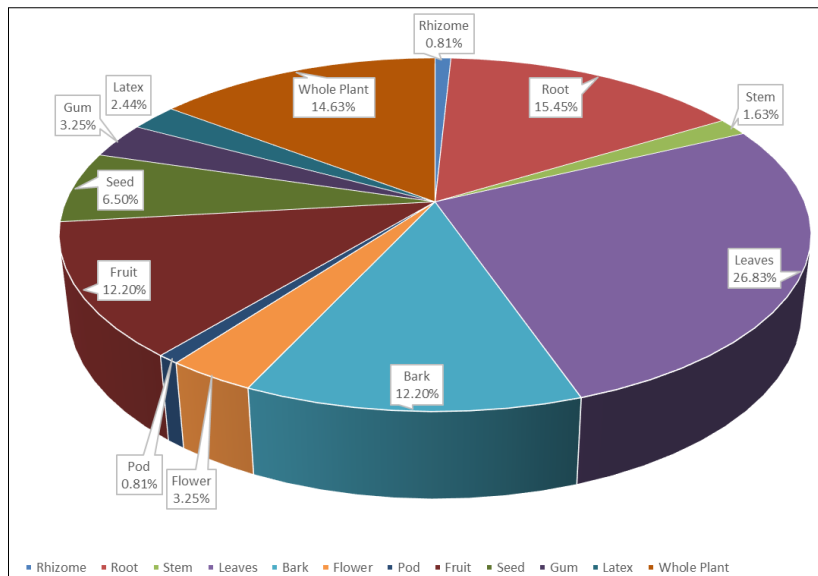


**Fig 2:** Distribution of dominated families.

**Table 2:** Total number of families and species found in the study area.

Sr.No.	Family	No. of Species
1.	Acanthaceae	2
2.	Aizoaceae	1
3.	Amaranthaceae	1
4.	Apocynaceae	3
5.	Asclepiadaceae	2
6.	Asteraceae	4
7.	Balanitaceae	1
8.	Burseraceae	2
9.	Capparaceae	3
10.	Combretaceae	1
11.	Convolvulaceae	2
12.	Cucurbitaceae	1
13.	Cyperaceae	1
14.	Ehretiaceae	1
15.	Euphorbiaceae	5
16.	Fabaceae	13
17.	Lamiaceae	3
18.	Lytheraceae	1
19.	Malvaceae	4
20.	Meliaceae	1
21.	Menispermaceae	1
22.	Moraceae	4
23.	Moringaceae	1
24.	Nyctaginaceae	1
25.	Nyctanthaceae	1
26.	Papaveraceae	1
27.	Pedaliaceae	1
28.	Poaceae	1
29.	Rhamnaceae	2
30.	Rutaceae	1
31.	Scrophulariaceae	1
32.	Solanaceae	4
33.	Sterculiaceae	1
34.	Tiliaceae	1
35.	Ulmaceae	1
36.	Zygophyllaceae	1
	Total	75

**Fig 3:** Habit-wise distribution of ethnomedicinal plant species.



**Fig 4:** Percentage of different plant parts used for ethnomedicinal purposes.





**Fig 5:** (A) *Argemone mexicana* L. (B) *Barleria prionitis* L. (C) *Boerhavia diffusa* L. (D) *Butea monosperma* (Lam.) Taub. (E) *Capparis decidua* (Forssk.) Edgew. (F) *Capparis sepiaria* L. (G) *Evolvulus alsinoides* (Linn.) Linn. (H) *Ipomoea pes-tigridis* L. (I) *Solanum surattense* Burm. f. (J) *Trianthema portulacastrum* L. (K) *Tridax procumbens* L. (L) *Withania somnifera* (L.) Dunal

### Conclusion

This study is important to provide the knowledge of medicinal plants used by tribals and rural people of the Alwar district of Rajasthan. People in rural areas do not have enough sources and facilities for health care. These are still dependent on traditional medicines therefore documentation of the indigenous information about the medicinal plants is valuable for the communities and their future generations. So future generations must learn the importance and traditional uses of these plants and conserve plants for the future.

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