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ETHNOBOTANICAL STUDIES ON MEDICINAL PLANTS OF BANASTHALI REGION OF TONK DISTRICT, RAJASTHAN (INDIA)

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ABSTRACT

Ethnobotany is the study of the interactions and relationships between plants and people over time and space. If plants did not exist, human life would not be possible. The present study is an attempt to explore the traditional indigenous knowledge of the local rural people from Banasthali region located in district of Tonk Rajasthan state. The study explored 44 plants species belonging to 29 families and 41 genera used to prepare various remedies and their modes of preparations are decoction, juice, extract, and powder. The information regarding their use was collected from local rural people through semi structured interviews. A total of 60 key informants (women 65% and men 35%) were consulted and interviewed to collect the information. Plants were grouped under 12 categories of aliments and informant's consensus factor about usage of medicinal plants ranges from 0.72 to 0.97 with an average value of 0.91. The study reveals that 16 plant species show high fidelity level. These results will contribute to prepare further advance research in medicines.

Keywords: Banasthali, fidelity level, indigenous knowledge, informant consensus factor, rural.

INTRODUCTION

The term ethnobotany was first given by Harshberger in 1985. It has been often interpreted synonymous with economic botany or with traditional medicine. Ethnobotany deals with direct, traditional and natural relationship between human societies and plants (Katewa, 2009; Khan *et al.*, 2014). It has been recognised as a multi-disciplinary science comprising many interesting and useful aspects of plant science (Jain, 1995).

Ethnobotanical knowledge is very ancient in India. It can be defined as the total natural and traditional relationship and the interaction between man and his surrounding plant wealth (Katewa and Jain, 2006). The utilization of plants for medicinal purpose in India has been documented long back in ancient literature because they are essential for human survival. Since time immemorial Indians are using medicinal plants to cure specific ailments. The indigenous system of medicine, namely Ayurvedic, Siddha and Unani has been in existence and use since last 3000-5000 years (Choudhery *et al.*, 2008; Jain *et al.*, 2005; Kulkarni and Ansari, 2004; Meena and Yadav, 2010). The basic strengths of Indian indigenous system of medicine are therapeutic, restorative and remedial approaches of health (Meena and Yadav, 2010; Sebstein and Bhandari,

1998; Singh, 1997). They are mostly plant based and comprise over 8000 medicinal plants species. In India about 1.5 million practitioners of Indian system of medicine use around 25000 effective plant based formulation. According to all India coordinate project 40% of 16000 recorded flowering plants in India has ethno medicinal value, whereas only 10% of these are used in drug and pharmaceutical industries (Sharma, 2012). The essential importance of these medicinal plants can very well prove as a potential source of new drugs. Some noteworthy contribution about traditional medicinal property of plants has revealed in this study.

MATERIAL AND METHODS

1. Study area

Banasthali (Tonk district) region ([26.41°N](#) and [75.87°E](#)) is located in Southeast part of Rajasthan state. It is located 72 km south west of the capital of Rajasthan state Jaipur. Banasthali is 6.1 km distance from its main town Newai. In the 2011 Indian census Banasthali had a rural population of 12835 out of which males constitute 31% and females 69% of the population. The climate of Banasthali is semi arid. The mercury touches 45°C- 47°C in summer and drops to nearly freezing point during in the winter night. The average rainfall ranges between

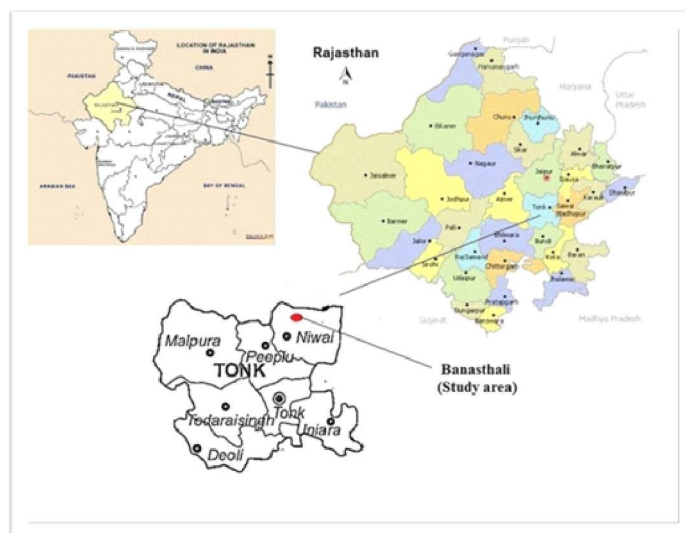


Figure 1 Location map of Banasthali region in Tonk district of Rajasthan.

450 mm-560 mm. The soil of this region is sandy loam to sandy clay and contains high pH value. The area is rural in nature and majority of the population is illiterate. Banasthali harbours a variety of plants, which are very effectively used by rural people and they are also relying on medicinal plant of the region for the treatment of various diseases.

2. Data collection

In order to utilize ethnobotanical knowledge, survey was carried out during the year of July 2011-Sep 2012. Plants species were collected during their flowering and fruiting seasons and photographed. During the field survey, detailed information regarding the use of selected plants was collected from the local rural people of Banasthali region. A Total of 60 key informants (39 women and 21 men) were consulted and interviewed to collect the information. The data were gathered by personal interview and cross checked at different places among various rural people. Semi-structured interview were taken from medicine-men, men and women, village headman, priest, vaidhya and other rural community leaders from Banasthali. Detail of gender, age groups, education and profession of informants were specified in table 1.

Table 1 Detail of informants interviewed in Banasthali region, Tonk district of Rajasthan.

	Total	%age
Gender		
Male	21	35
Female	39	65
Age Groups		
20-29	2	8.3
30-39	8	13.3
40-49	7	11.6
50-59	12	20
60-69	18	30
70-79	13	21.6
Education		
Illiterate	25	41.6
Primary	16	26.6
Middle	12	20
Secondary	4	6.6
University	3	5

Profession		
Female		
House wives	15	38.46
Labors	24	61.53
Male		
Shopkeepers	4	19.44
Farmers	6	28.57
Labors	9	42.85
Teachers	2	9.52

The specimens of the medicinal plants were collected, identified, dried and prepared herbarium (Jain, 1997; Bhandari, 1998). The herbarium of specimens has been deposited in the herbarium of Banasthali University, Tonk Rajasthan.

Data analysis

Informant consensus Factor (F_{ic}) for different ailment categories was calculated for testing homogeneity or reliability of the informant's knowledge about a particular remedy for a particular ailment (Heinrich, 1998).

Informant's consensus factor can be calculated by following formula:

$$F_{ic} = (N_{Ur} - N_{Taxa}) / (N_{Ur} - 1)$$

Where N_{Ur} = No. of use reports of informants for a particular illness category

N_{Taxa} = No. of species used by all informants for a particular illness

The Fidelity is the index which ranks the priority of the plants mentioned by the informants to treat various diseases.

Fidelity can be calculated by following formula:

$$FL = N_p / N \times 100$$

Where N_p = No. of informants that mention the specific plant species used to certain ailments

N = Total no. of informants

RESULTS & DISCUSSION

According to this study, a total of 44 plants species belong to 29 families and 41 genera are found to be common throughout study area, covered trees, herbs, twiners, and shrubs. Plant as a whole or plant part such as leaves, bark, root, fruit, pulp, latex and flower etc. are used for various purposes. In this study, table 2 reported botanical name,

vernacular name, family, part used and their frequency of occurrence of the plants species and their possible medicinal uses. These plants species are being used for various ailments such as fever, ulcer, cold and cough, toothache, sexual problems, antidote, urinary problems, skin care, intestinal problems, memory power, physical power, constipation, skin disease like wound, boils, sunstroke, cut, injury, arthritis, blood purification, jaundice, bone fracture, leucoderma, dysentery and tuberculosis. Mode of preparation of remedy is decoction, paste, juice, powder, extract are found among the rural communities. In the study, **Fig. 2** is showing no. of plants out of 29 families. Some plants species like *Achyranthus aspera*, *Amaranthus spinosus*, *Acacia nilotica*, *Calotropis procera*, *Cascia fistula*, *Chlorophytum tuberosum*, *Datura innoxia*, *Euphorbia hirta*, *Pedaliium murex*, *Prosopis cineraria*, *Tribulus terrestris*, *Ziziphus mauritiana* and *Withania somnifera* are important species for their domestic uses.

To obtain credibility, scientific studies that utilize traditional knowledge must be reliable. In

ethnobotanical studies, consensus analysis provides a measure of reliability for any given claim providing reliable evidence. The product of F_{ic} ranges from 0 to 1. High value of F_{ic} indicates the agreement of selection of taxa between informants, whereas a low value indicates disagreement (Ragupathy, 2008). Recently consensus analysis has been used as an important tool for the analysis of ethnobotanical data (Kumar, 2012; Kim and Song, 2011; Mahomoodally, 2014). In the study area, the informants consensus about usages of medicinal plants ranges from 0.72 to 0.97 with an average value of 0.91 (Table 3), which shows high level of agreements among the informants. F_{ic} also shown a high value of consensus for urogenital (0.97) and respiratory (0.96) ailments, which were followed by gastrointestinal and fever (0.95 each). The high level of consensus among the informants about the usages of medicinal plants for the treatment or prevention of various diseases and ailments prevalent in the study area suggests that the ethnobotanical uses plants are currently in practice in the study area.

Fig. 2 No. of plants of medicinal plant families in Banasthali region.

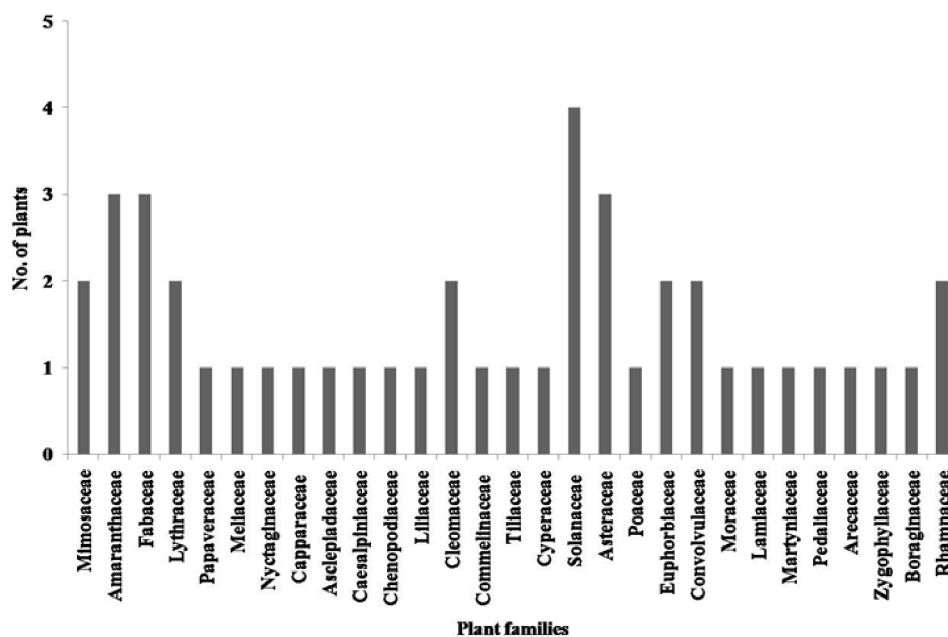


Table 2 Ethnomedicinal plants of Banasthali region of Tonk and their traditional uses

SN	Botanical name, Family (Vernacular name)	Habit	Ft/Ft Time	Frequency of occurrence	Part used	Uses
1.	<i>Acacia nilotica</i> (L.) Willd. ex Del.Mimosaceae (Babool)	Tree	Sep-Mar	Frequent	Leaves Bark Fruit	Eye drops for conjunctivitis. Powder of bark, leaves, flowers and pods for cleaning teeth. Bark decoction for normal menstruation. Powder of pods taken in restoration of sexual potency. Flower extract with vinegar in eczema.
2.	<i>Achyranthes aspera</i> L. Amaranthaceae (Aandhi jhada)	Herb	Aug-Nov	Frequent	Leaves Root Seed	Leaves smoke inhale to cure whooping cough and asthma. Fresh root used in cleaning teeth daily. Leaves extract applied topically in scorpion sting. Seeds are used for restoration of sexual potency. Powder of seeds snuffed in migraine. Fresh root used for kidney stone.
3.	<i>Aeschynomene aspera</i> L. Fabaceae (Dhadoo)	Herb	Aug-Nov	Rare	Fruits	Fruits are given in constipation.
4.	<i>Alternanthera pungens</i> KunthAmaranthaceae (Kuttiya)	Herb	Entire year	Rare	Whole plant	Decoction is given to domestic animals in stomach ache. Decoction for normal fever.
5.	<i>Amaranthus spinosus</i> L. Amaranthaceae (Choulai)	Herb	Entire year	Frequent	Leaves Root	Root paste is applied topically in scorpion stings. Leaves decoction is taken orally in urinary problems. Decoction taken for check normal fever and pneumonia.
6.	<i>Ammannia baccifera</i> L. Lythraceae (Jal Bhangro)	Herb	Aug-Jan	Rare	Whole plant	Leaves paste is applied over skin to remove itching. Leaf extract is applied in scorpion sting as an antidote.
7.	<i>Argemone mexicana</i> L. Papaveraceae (Satyanashi)	Herb	Feb-Jun	Frequent	Leaves Latex Root	Yellowish latex of this plant is applied externally to cure various skin diseases. Latex is also rubbed on the body parts affected due to rheumatism and poured in eyes in conjunctivitis.
8.	<i>Azadirachta indica</i> A. Juss. Meliaceae (Neem)	Tree	Mar-Jul	Frequent	Whole plant	Bark is used for cure acne. Juvenile leaves are eaten in morning is considered as very good blood purifier. Seed oil is used as contraceptive. Smoke of leaves and seed oil is considered a very good insecticide. Leaves are used for hair related problems. Root decoction cure malaria fever. Ash of leaves is used for remove kidney stone. Leaves, flowers and fruits are crushed in water taken orally in leprosy.
9.	<i>Boerhavia diffusa</i> L. Nyctaginaceae (Punarnava)	Herb	Aug-Dec	Intermediate	Whole plant	Decoction of whole plant is taken orally by the patient of insomnia, tension and restlessness. Plant used of antidote of snake venom. Powder of root with turmeric taken twice a day to cure irritating cough. Vegetable of leaves is taken in heart problems.
10.	<i>Capparis decidua</i> (Forssk.) Edgew. Capparaceae (Kair)	Shrub	Mar-Jul	Intermediate	Whole plant	Young twigs are chewed in tooth ache. Paste of bark is applied topically in external swellings. Ash of wood along with honey and ginger is taken orally in arthritis. Paste of young twig is applied topically in baldness.

11.	<i>Calotropis procera</i> (Ait) R. Br.Asclepiadaceae (Aak)	Shrub	Entire year	Frequent	Leaves/Flower	Leaves are applied hot to abdomen to cure the pain inside. Flowers are believed to cure cholera (detergent properties). Leaves cure swollen legs and also wounds caused by rusty nails. The leaves are said to cure catarrh being warmed first of all and then the juice is dropped in to nose. This caused the patient to sneeze. 1-2 juvenile leaves are chewed early in the morning for 7 days in tuberculosis. Leaves and fruit are boiled together and are used in extraction of guinea worm by the emersion of infected area.
12.	<i>Cassia fistula</i> L. Caesalpinaceae (Amaltas)	Tree	May-Jun	Intermediate	Seed	Fruit pulp is taken in diabetes. Plant extract along with goat's milk is taken orally to cure piles. Vegetable is used in constipation. Leaves are used as hair conditioner by rural women.
13.	<i>Chenopodium album</i> L. Chenopodiaceae (Bathua)	Herb	Oct-Apr	Intermediate	Whole plant	Powder of tuber is taken by the men once a day with cow's milk to increase sexual vitality while women take it to cure leucorrhoea.
14.	<i>Asphodelus tenuifolius</i> Cav. Liliaceae (Piazi)	Herb	Jun-Oct	Rare	Tuber	Decoction of seed is taken to cure cough, cold and fever. Extract of leaf is poured in ear to cure earache. Paste of fresh root is applied to cure skin disease.
15.	<i>Cleome gynandra</i> L. Cleomaceae (Karelia)	Herb	Jul-Dec	Rare	Seed Leaves Root	Seed powder is taken orally to cure bleeding piles. Paste of leaves is applied topically to cure wound.
16.	<i>Cleome viscosa</i> L. Cleomaceae (Bagra)	Herb	Jul-Nov	Rare	Seed Leaves	Vegetable cooked from the leaves is given to patient suffering from typhoid. Decoction of root is taken twice a day to check liver disordered. Paste of leaf is applied over body parts affected from sunstroke. Extract of fresh plant is used in leucorrhoea by rural women. Extract of leaves is applied topically in skin diseases.
17.	<i>Commelina benghalensis</i> L. Commelinaceae (Bokhania)	Herb	Jul-Oct	Frequent	Leaves Seed	Extract of seed is taken orally in fever.
18.	<i>Corchorus aestuans</i> L. Tiliaceae (Bahuphali)	Herb	Aug-Oct	Intermediate	Seed	Root decoction is taken twice a day in mild rheumatism.
19.	<i>Crotalaria medicaginea</i> Lam Fabaceae (Meerva)	Herb	Jul-Nov	Intermediate	Root	Juice of leaves with honey poured in eyes as eye drops to cure inflammation.
20.	<i>Cyperus iria</i> L. Cyperaceae (Motia)	Sedge	Aug-Nov	Intermediate	Leaves	Paste of leaves is taken orally to cure diabetes. 8-10 leaves crushed in water is taken twice a day to regularised menstrual cycle.
21.	<i>Dalbergia sissoo</i> Roxb. Fabaceae (Sisham)	Tree	Mar-Aug	Frequent	Leaves	Decoction of plant taken orally twice a day to cure arthritis.
22.	<i>Datura innoxia</i> Mill. Solanaceae (Dhatura)	Herb	Nov-Mar	Intermediate	Whole plant	Extract of leaves applied externally on wounds. Powder of fruits along with honey taken orally for pregnancy.
23.	<i>Echinops echinatus</i> Roxb. Asteraceae (Unt-Kantalo)	Herb	Dec-Apr	Rare	Root	Decoction of root is taken orally in infection of urinary tract and kidney disorders. Seeds are used as blood purifier.
24.	<i>Eleusine indica</i> (L.) Gaertrn Poaceae (Chitki)	Grass	Jul-Sep	Frequent	Root	Paste of whole plant is taken orally in fever.

25.	<i>Euphorbia hirta</i> L. Euphorbiaceae (Dudhi)	Herb	Entire year	Frequent	Whole Plant	Juice of whole plant along with juice of nerium leaves applied topically on baldness. Latex of plant given to nursing mother as lactagogues. Latex applied externally on acne. Decoction of whole plant along with honey taken in bronchitis and asthma.
26.	<i>Evolvulus alsinoides</i> L. Convolvulaceae (Phooli)	Herb	Jul-Nov	Intermediate	Whole Plant	Plant has the power to strengthen the brain and memory. Powder of dried plant taken along with milk in morning. It is used as with cummin and milk, also as an alternative and with oil to promote the growth of the hairs. Powder of whole plant taken orally along with milk to cure leucorrhoea.
27.	<i>Ficus religiosa</i> L. Moraceae (Pipal)	Tree	Entire year	Frequent	Whole Plant	Decoction of bark is taken orally twice a day to cure whooping cough. Powder of seeds along with honey taken orally in the morning and evening as blood purifier. Powder of bark applied topically on wounds. Powder of ripe fruits taken orally along with honey in stammering.
28.	<i>Ipomoea pes-tigridis</i> L. Convolvulaceae (Kiela)	Twiner	Aug-Dec	Intermediate	Whole Plant	The Root is used as purgative. It is also used in the treatment of dog bites.
29.	<i>Lawsonia inermis</i> L. Lythraceae (Mehandi)	Shrub	Aug-Dec	Rare	Leaves	Leaves are boiled in water and gargle with filtrate to cure mouth ulcers. Leaves are used to cure jaundice.
30.	<i>Leucas aspera</i> (Willd.) Link. Lamiaceae (Kaddiyoi)	Herb	Entire year	Rare	Whole Plant	Hot leaves are applied externally on swellings. Paste of fresh leaves is applied topically on skin diseases. Smoke of whole plant is inhaled to cure chicken pox.
31.	<i>Marrynia annua</i> L. Martyniaceae (Bichhu-Kanto)	Herb	Aug-Oct	Intermediate	Whole Plant	Seed oil is used for curing itching and eczema. Decoction of whole plant is taken by orally along with powder of black pepper to cure pneumonia.
32.	<i>Petalium murex</i> L. Pedaliaceae (Dakhni-gokhru)	Herb	Aug-Dec	Frequent	Leaves Fruit	Leaves are boiled in water and filtrate is taken orally in female menstrual disorders. Fruit powder if taken orally along with cow's milk in restoration of sexual potency. Seeds are boiled in water and applied topically in eczema.
33.	<i>Phoenix sybestrus</i> L. Arecaceae (Loodkhi)	Tree	Feb-Aug	Frequent	Leaves	Fresh leaves are chewed in urinary tract inflammation. Leaf extract is used to wash eyes in conjunctivitis. Juice of juvenile shoot is given in diabetes and also to cure diarrhoea.
34.	<i>Phyllanthus niruri</i> L. Euphorbiaceae (Bui amla)	Herb	Aug-Dec	Intermediate	Whole Plant	An infusion of young shoot is given in dysentery. The powder of leaves and root are pulverise and made into poultice with rice water to lessen oedematous swelling and ulcers. An aqueous extract or decoction of fresh root, stem and leaves given internally in snake bite. The fresh root is said to be an excellent remedy for jaundice.
35.	<i>Prosopis cineraria</i> (L.) Druce Mimosaceae (Khejri)	Tree	Mar-Jul	Frequent	Bark Flower	Powder of fruit pulp is taken twice a day in asthma. Decoction of whole plant along with honey taken orally in the morning and evening to cure inflammation of urinary tract. Powder of fruit is taken orally to cure infertility in women.

36.	<i>Solanum nigrum</i> L. Solanaceae (Kali-makoi)	Herb	Sep-Dec	Intermediate	Whole Plant	Decoction of root is taken in insomnia. Leaves are chewed in mouth ulcers. Decoction of leaves is taken to cure jaundice.
37.	<i>Solanum surattense</i> L. Solanaceae (Pili kateli)	Herb	Nov-Mar	Intermediate	Leaves Fruit	Powder of flowers along with honey given orally to children to cure cough. Decoction of whole plant is used to cure cough, fever, bronchitis and asthma. Extract of taken orally in urinary inflammation.
38.	<i>Tribulus terrestris</i> L. Zygophyllaceae (Gokhru)	Herb	Aug-Dec	Frequent	Whole Plant	Powder of fruit pulp is taken twice a day in asthma. Decoction of whole plant along with honey taken orally in the morning and evening to cure inflammation of urinary tract. Powder of fruit is taken orally to cure infertility in women.
39.	<i>Trichodesma indicum</i> (L.) R. Br. Boraginaceae (Sial kato)	Herb	Jul-Nov	Rare	Root	Root mixture is used to cure stomach pain. Root paste is applied topically on skin diseases.
40.	<i>Tridax procumbens</i> L. Asteraceae (Kalal)	Herb	Entire year	Intermediate	Leaves Root	Paste is used to cure bleeding piles. Decoction of root is taken orally in urinary inflammation.
41.	<i>Withania somnifera</i> (L.) Dunal Solanaceae (Aswagandha)	Herb	Entire year	Frequent	Whole Plant	Powder of whole plant is taken orally with its decoction in tuberculosis. Fresh leaves are boiled in water and filtrate is taken orally in arthritis. Powder of whole plant along with cow's milk taken orally in infertility.
42.	<i>Xanthium strumarium</i> L. Asteraceae (Adhashishi)	Herb	Oct-Dec	Intermediate	Leaves Seed Root	Seed powder is mixed along with lemon juice and water given orally in dysuria. Fresh root chewed twice a day to cure toothache.
43.	<i>Ziziphus mauritiana</i> Lam. Rhamnaceae (Ber)	Shrub	Sep-Feb	Frequent	Bark Seed	Fresh root chewed twice a day to cure toothache. Fresh fruits are boiled in water and filtrate is taken orally along with sugar in fever, weakness, stress and exhaustion. Decoction of plant is used to cure dandruff and hair fall. Decoction of powder of seed is taken to check vomiting.
44.	<i>Ziziphus nummularia</i> (Burm. F.) Wt. & Arn. Rhamnaceae (Jhar-ber)	Shrub	Jul-Jan	Frequent	Leaves Bark	Gargle with decoction of leaves in mouth ulcers. Powder of bark is used by rural women in menstrual disorders.

F= Flowering, **Ft**=Fruiting

Table 3 Categories of ailments and informant's consensus factor (F_{ic}) for each category.

Aliments Category	Diseases	N_{Taxa}	N_{Ur}	F_{ic}
[A] Dermatological Disorders and cosmetics	Eczema, Leprosy, Sores, Skin rushes, Acne, Hair Problems, Sunstroke, Baldness	16	185	0.92
[B] Gastrointestinal Disorders	Stomach- ache, Constipation, Piles, Colic pain, Cholera, Liver disorders, Diarrhoea, Mouth-ulcer, Vomiting	17	346	0.95
[C] Respiratory Disorders	Whooping cough, Asthma, Catarrh, Tuberculosis, Bronchitis, Cough	9	235	0.96
[D] Fever	Ordinary fever, Pneumonia, Malaria, Typhoid	9	176	0.95
[E] Urogenital Problems	Menstrual disorders, Sexual debility, Leucorrhoea, Urinary tract Inflammation, Infertility in women	17	592	0.97
[F] Ophthalmological Disorders	Conjunctivitis, Inflammation	3	12	0.82
[G] Odontological Disorders	Tooth Ache, tooth cleaning	4	12	0.72
[H] Skelto-muscular problems	Rheumatism, Arthritis, Swellings	5	53	0.92
[I] Cardiovascular Disorders	Heart Problems	2	36	0.97
[J] Mental Problems	Migraine, Insomnia, Memory tonic, Stammering	7	95	0.94
[K] Antidote	Snake venom, Scorpion Stings	5	23	0.81
[L] Other	Diabetes, Kidney stone, Wounds, Dog bites, Head ache	10	148	0.94

Informant's consensus factor (F_{ic}) = $(N_{Ur} - N_{Taxa}) / (N_{Ur} - 1)$

N_{Ur} - Number of use report in particular aliment category

N_{Taxa} - Number of taxa used to treat that particular category by information

Present study revealed medicinal plants having high FL value. The study determined 4 plants species (*Acacia nilotica* (L.) Willd. ex. Del, *Achyranthes aspera* L., *Azadirachta indica* A. Juss. and *Petalium murex* L.) with a FL of 100% followed by 12 plant species (*Argemone mexicana* L., *Boerhavia diffusa* L., *Boerhavia diffusa* L., *Chenopodium album* L., *Corchorus aestuans* L., *Cyperus iria* L., *Datura innoxia* Mill., *Eleusine indica* (L.) Gaertn., *Ficus religiosa* L., *Lawsonia inermis* L., *Phoenix sylvestris* L., *Tridax procumbens* L.) with more than 50% and less than 100% (Table 4). High FL value plants might be selected for further research.

The Indigenous knowledge on the use of medicinal plants is also rapidly declining in India (Jain, 2005; Sharma *et al.*, 2005; Singh *et al.*, 2012). There is an urgent need for inventorying and documenting all ethnobotanical information from local rural

communities. In India knowledge is passed from one generation to next generation through songs and poems. There is lack of written form of our knowledge. Due to changing life style younger generation tend to discard their valuable knowledge. Hence wealth of our indigenous knowledge is declining and in future it will be extinct (Upreti, 2010; Khan *et al.*, 2003). Therefore efforts will be done for documentation of traditional indigenous ethnobotanical knowledge. The present study on ethnobotanical uses of plants is documented for their fascinating medicinal properties for various ailments.

Table 4 Fidelity level value of medicinal plants reported against a given ailment.

Name of the medicinal plant	Ailments	NP	N	FL value %
<i>Acacia nilotica</i> (L.) Willd. ex. Del	Dermatological	19	19	100
<i>Achyranthes aspera</i> L.	Tooth ache	26	26	100
<i>Argemone mexicana</i> L.	Rheumatism	18	19	94.7
<i>Azadirachta indica</i> A. Juss.	Blood purifier	43	43	100
<i>Boerhavia diffusa</i> L.	Cardiovascular	15	17	88.2
<i>Boerhavia diffusa</i> L.	Antidote	7	10	70
<i>Chenopodium album</i> L.	Hair problems	12	15	80
<i>Corchorus aestuans</i> L.	leucorrhea	8	14	57.1
<i>Cyperus iria</i> L.	Skeletomuscular	17	21	80.9
<i>Datura innoxia</i> Mill.	Wounds	5	10	50
<i>Eleusine indica</i> (L.) Gaertn.	Fever	26	30	86.6
<i>Ficus religiosa</i> L.	Cough	7	11	63.6
<i>Lawsonia inermis</i> L.	Jaundice	8	13	61.5
<i>Petalium murex</i> L.	Menstrual disorders	34	34	100
<i>Phoenix sylvestris</i> (L.) Roxb	Eye diseases	18	22	81.8
<i>Tridax procumbens</i> L.	Urinary infection	45	49	91.8

NP = No. of informants who mentioned the specific plant species used to cure ailments

N = Total no. of informants

CONCLUSION

Present study reveal that the local traditional knowledge of the rural community of Banasthali area possessing fascinating knowledge of medicinal properties of plants surroundings them. The circumstances under which these people live-object poverty, disease and hunger combined with their natural curiosity towards their closest neighbour (nature), plants in which they lived and wanted help in reducing their woes and sorrows, must have been the essential factor in preserving their knowledge of plants and their usefulness to mankind. To reverse these trends, we need to respect the wisdom of the diverse approaches to nature that exist in every society. During this study it was found that we shall be lose our valuable treasure of tremendous knowledge of medicinal properties of plants surrounding us. There is an urgent need to preserve the remaining treasure of traditional knowledge of medicine. However, information on the uses of

indigenous plants for medicine is not well documented from many rural areas of Rajasthan including this study area. Therefore present study highly recommended in this direction to document this knowledge for future generation, further exploitation for human welfare.

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