

Asian Resonance

Plants of Tonk District Used For Human Health

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Abstract

This study illustrates the uses of medicinal plants by the traditional healers and local people of Tonk district of Rajasthan, India.

An ethnobotanical study was conducted from September 2019 to February 2020 through personal interviews of local people. The study was focused on identifying medicinal plants, disease treated and parts of the plant used. The data were collected through a series of field surveys. Ethnobotanical methods using semi-structured interviews were conducted and a total of 95 plant species belonging to 51 families were recorded as useful for human health. The plants were used to treat a variety of skin disorders, boils, gastrointestinal diseases, cardiac ailments, respiratory troubles and more.

Keywords: Ethnobotanical, traditional healers, medicinal, human health, Tonk District.

Introduction

Over the past five decades, global use of plant-based medicines has been steadily increasing, conversely the traditional knowledge and practices of these botanical medicines appears to be declining.

A similar trend has been seen in India, as well. India is a large country with rich plant resources, including a considerable number of medicinal plants. Local communities in different parts of the country have developed a deep knowledge of various uses of plants since ancient time.

Review of Literature

Traditional medicine and medicinal plant usage has been investigated in many parts of the country (Singh et al. 2020, Ozukum et al. 2019, Parkash and Aggarwal, 2010; Yadav and Bhandoria, 2013). Nevertheless, taking in consideration the rich biodiversity, huge area and multiculturalism of India, more ethnobotanical studies are the need of the hour for efficient documentation and conservation of this knowledge (Yadav and Bhandoria, 2013). Therefore, documentation of medicinal plants and their usage by local people of the district is important. The objectives of this study were to collect and document information about the medicinal plants used by local people and traditional healers of Tonk district, Rajasthan, India. Plants are the backbone of all life on Earth and an essential resource for human well-being.

Ancient Indian literature has recorded the use of plants as sources of medicine (Tulsidas 1631; Shastri et al. 1996). The local use of plants as remedy are common, particularly, in those areas, which have little or no access to modern health services, such as the innumerable villages and hamlets in India (Jain and Rao, 1977; Joshi, 2000; Singh and Karthikeyan, 2000; Sandhya et al. 2006).

Aim of the Study

To understand the knowledge of people of Tonk District who are familiar with plant-based medicines used for Human Health.

Study Area

The area of the present study is located in Tonk District which lies between 25°41' and 26°34' N latitude and 75°19' E longitude and covers an area of 71945 sq. km. Tonk District is bordered by the districts of Jaipur to the north, Sawai Madhopur to the east, Bundi and Bhilwara to the south and Ajmer to the west.

Method of Study

Herbs, shrubs and trees and lianas are the various habits of medicinal plants found in Tonk district. General information about the area was collected from local people of Tonk district prior to the field work on medicinal uses of plants. The success of ethnobotanical documentation depends on the cooperative relationship between the researcher and participants. It is very important to locate knowledgeable informants for the study of Ethnobotany (Given and Harris, 1994). The work contains details about medicinal plants and the diseases which they are used for. The collected plants were identified taxonomically using the Indian medicinal plant literature to ascertain nomenclature. Standard methods of



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ethnobotanical studies were followed (Gupta, 1995; Joshi, 1995; Jain, 1995). These plants were identified by available literature and flora (Cooke, 1908; Shetty and Singh, 1991; Duthie, 1886; Mudgal, 1995; Rao and Hajra, 1995; Subrahamanyam, 1996).

Results and Discussion

The present study revealed the ethnobotanical knowledge of people in Tonk district of Rajasthan. Among 95 plant species of 77 genera and 51 families, Caesalpiniaceae was represented by six species, Fabaceae, Mimosaceae and Rutaceae were represented by five species, Euphorbiaceae and Solanaceae were represented by four species, three families were represented by three species each, fifteen families were represented two species and twenty seven families were represented by one species. The present study mainly focuses on the medicinal plants used by the local people in Tonk District for primary health care and to cure various diseases like paralysis, skin infections, rheumatism, diarrhea, ulcers, skin ailments, toothache, headache, wounds, diabetes, liver problems, menstrual disorders, pyorrhea, piles, jaundice, asthma, mental illness etc. Most of the earlier ethno botanical studies confirmed that leaves are the major portion of the plant used in the treatment of diseases. The local people use these plants to cure various minor to major diseases. Medicine from these plants is prepared in many ways and different parts of plants are used in different maladies (Fig. 1). Extract of the whole plant followed by root, stem bark, fruit, latex, and fruits are used frequently for drug preparation. Similar results from the Sapera community of the Jhajjar District of Haryana were reported (Panghal et al. 2010). These studies are in accordance with (Roy, 2015 and Singh and Tripathi, 2019), who studied Rajbanshis of Coochbehar district and rurals of Bharach, Uttar Pradesh, respectively. A personal investigation was conducted among various age groups of people of Tonk district. A pre-prepared questionnaire was taken and interviews were conducted to collect the information about various medicinal plants used. 200 participants were met and the results were tabulated. This study clearly reveals that most of the plants were used to treat dysentery and diarrhea (22 species) followed by skin diseases (11 species), fever (11 species), wounds & itching (9 species), asthma, bronchitis, urogenital diseases, whooping cough & cold and rheumatism (8 species each), piles and stomachic (7 species each), leprosy and ulcers (5 species each), scabies & ophthalmia, indigestion and sore throat (4 species each) reproductive disorders (5 species) and other diseases were treated by several species as enlisted (Table 1).

Fig. 1: Plant parts used as source of medicine

Table 1: Name of diseases and botanical names of the plants used by people of Tonk district

S.No.	Name of the Disorder	Botanical name of the plant
1.	Skin Diseases, including eczema and dandruff	Adhatoda vasica (L.)Nees
		Ailanthus excelsa Roxb.
		Azadirachta indica A.Juss
		Balanites aegyptiaca Del.
		Cassia auriculata L.
		Cassia tora L.
		Commelina bengalensis L.
		Datura metel L.
		Ficus religiosa L.
		Pongamia pinnata (L.)Pierre

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		Tamarix aphylla (L.)H.Karst
2.	Boils	Abutilon indicum L.
		Azadirachta indica A.Juss
		Barleria prionitis L.
		Capparis decidua (Forsk.)Edgew
		Tephrosia purpurea (L.)Pers
3.	Dysentery & Diarrhoea	Acacia Senegal (L.) Willd
		Achyranthes aspera L.
		Adhatoda vasica (L.)Nees
		Aegle marmelos L.
		Butea monosperma (Lam.) Taub
		Calotropis gigantea (L.)W.T.Aiton
		Ficus bengalhensis L.
		Grewia flavescens Juss.
		Mangifera indica L.
		Prosopis juliflora (Sw.)DC
		Tephrosia purpurea (L.)Pers
		Ziziphus mauritiana (L.)Lam.
		Erythrina indica Lam.
		Annona squamosa L.
		Syzygium cumini (L.)Skeels
		Gardenia turgida Roxb.
		Alhagi pseudalhagi (Bieb.) Desv
		Cynodon dactylon (L.)Pers
		Bauhinia variegata L.
		Bridelia retusa (L.)A.Juss.
		Holarrhena antidysenterica L.
		Tamarindus indica L.

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4.	Piles	Abutilon indicum L.
		Butea monosperma (Lam.) Taub
		Capparis decidua (Forsk.)Edgew
		Pongamia pinnata (L.)Pierre
		Cannabis sativa L.
		Commelina bengalensis L.
		Lepidagathis trinervis Nees
5.	Urinogenital Diseases	Abutilon indicum L.
		Acacia nilotica L.
		Tephrosia purpurea (L.)Pers
		Ocimum cannum Sims
		Erythrina indica Lam.
		Cordia gharaf Ascherson
		Cordia dichotoma Forst.
		Grewia flavescens Juss.
6.	Leprosy	Acacia senegal (L.) Willd
		Calotropis procera (Ait.)R.Br
		Commelina bengalensis L.
		Citrus medica L.
		Tamarix dioca Roxb.ex Roth
7.	Dropsy	Boerhavia diffusa L.
		Cynodon dactylon (L.)Pers
8.	Asthma	Achyranthes aspera L.
		Boerhavia diffusa L.
		Datura stramonium L.
		Mangifera indica L.
		Solanum surattense
		Tephrosia purpurea (L.)Pers
		Citrus medica L.

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		Gymnema sylvestre (Retz.)R.Br
9.	Bronchitis	Adhatoda vasica (L.)Nees
		Ocimum cannum Sims
		Tephrosia purpurea (L.)Pers
		Acacia catechu (L.f.) Willd
		Albizzia lebbeck (L.) Benth.
		Commiphora wightii (Arnott) Bhandari
		Nyctanthes arbor-tristis L.
		Euclptus globulus Labill.
10.	Pyorrhoea	Azadirachta indica A.Juss
11.	Ulcers	Azadirachta indica A.Juss
		Ficus religiosa L.
		Pongamia pinnata (L.)Pierre
		Cordia dichotoma Forst.
		Cynodon dactylon (L.)Pers
12.	Fever	Aegle marmelos L.
		Cassia fistula L.
		Ocimum canum Sims
		Citrus limmetoides Tanaka
		Cordia gharaf Ascherson
		Xanthium strumarium L.
		Tinospora cordifolia (Thunb.)Miers
		Anogeissus sericea Brandis
		Cordia dichotoma Forst. Tinospora cordifolia (Thunb.)Miers
		Xanthium strumarium L.
13.	Scabies & Ophthalmia	Argemone mexicana L.
		Ziziphus nummularia Burm.f.
		Holoptelea integrifolia Planch.

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		Pongamia pinnata (L.)Pierre
14.	Whooping Cough & Cold	Balanites aegyptiaca Del.
		Opuntia dilleni Ker Gawl.
		Solanum surattense Burm.f.
		Ziziphus nummularia Burm.f.
		Eucalyptus tereticornis Sm.
		Citrus medica L.
		Boswellia serrata Roxb.
		Nyctanthes arbor-tristis L.
15.	Colic	Balanites aegyptiaca Del.
16.	Toothache	Barleria prionitis L.
		Phoenix sylvestris L.
		Euphorbia neriifolia L.
17.	Menstrual Disorders	Butea monosperma (Lam.) Taub
18.	Herpes	Butea monosperma (Lam.) Taub
		Pongamia pinnata (L.)Pierre
19.	Cardiac Ailments	Capparis decidua (Forsk.)Edgew
		Solanum nigrum L.
20.	Vomiting	Capparis decidua (Forsk.)Edgew
		Tephrosia purpurea (L.)Pers
		Alhagi pseudalhagi (Bieb.) Desv.
21.	Gonorrhoea	Clerodendron sp.Walp.
		Cynodon dactylon (L.)Pers
22.	Liver troubles	Cuscuta reflexa Roxb.
23.	Eye problems	Cassia auriculata L.
		Gymnema sylvestre (Retz.)R.Br.
24.	Lumbago	Ricinus communis L.
		Ficus bengalhensis L.

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25.	Vermifuge	Lantana camara L.
		Tephrosia purpurea (L.)Pers
26.	Wounds & Itching	Lantana camara L.
		Acacia catechu (L.f.) Willd
		Holoptelea integrifolia Planch.
		Lanea coromandelica (Houtt.)Merr
		Mallotus philippensis (Lam.)Müll.Arg.
		Alangium salvifolium(L.f.) Wangerin
		Echinops echinatus Roxb.
		Martynia annua L.
		Celastrus paniculatus Willd.
27.	Jaundice	Lawsonia inermis L.
28.	Cattarh	Ocimum cannum Sims
29.	Stomachic	Ocimum cannum Sims
		Tribulus terrestris L.
		Erythrina indica Lam.
		Citrus limon L.
		Rivea hypocrateriformis (Desr.)Choisy
		Helicteres isora L.
		Asparagus racemosus Willd.
30.	Rheumatism	Ficus bengalhensis L.
		Salvadora oleoides Decne.
		Tephrosia purpurea (L.)Pers
		Eucalyptus tereticornis Sm.
		Pandanus fascicularis Lam.
		Celastrus paniculatus Willd.
		Alhagi pseudalhagi (Bieb.)Desv.
		Allium cepa L.

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31.	Sore throat	Martynia annua L.
		Sterculia urens Roxb.
		Acacia catechu (L.f.) Willd
		Solanum surratense Burm.f.
32.	Indigestion	Acacia catechu (L.f.) Willd
		Boswellia serrata Roxb.
		Diospyros melanoxylon Roxb.
		Helicteres isora L.
33.	Spinal Disease	Annona squamosa L.
34.	Hemicrania	Citrus aurantifolia (Christm. & Panzer)Swingle
35.	Scrofula	Bauhinia racemosa Lam.
36.	Snake bite	Stereospermum suaveolens (Roxb.)DC
		Rivea hypocrateriformis (Desr.)Choisy
37.	Epilepsy	Cynodon dactylon (L.)Pers
		Martynia annua L.
38.	Cholera	Alhagi pseudalhagi(Bieb.) Desv
39.	Hysteria	Cynodon dactylon (L.)Pers
		Ichonocarpus frutescens (L.)W.T.Aiton
40.	Earache	Allium sativum L.
41.	Heat appetizer	Pennisetum typhoides (Burm.)Stapf et Hubb

Conclusion

The present study focused on the need of proper documentation of the medicinal plants used by various communities for common diseases prevailing in this area. However, present generation are least interested about traditional medicines. Proper documentation and conservation of the plants used is necessary which should play a great role in Ayurveda, homoeopathy and in modern medicine.

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