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Research Article

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Taxonomic Diversity of Plants Used Medicinally by Local People of Tonk District, Rajasthan

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ABSTRACT

India harbours a great diversity of medicinal plants due to variations in its eco-geographical conditions. In the developing world, majority of the rural population depend on biodiversity for their health. Plants being used regularly by the local people of Tonk District for cure of various ailments were explored. A total of 95 plant species belonging to 51 families were reported having medicinal value. The results provide information about medicinal plants and utilization of these plants to mankind. This study will help in deciding the taxonomic diversity of the plants growing in the area and future conservation of the flora for our benefit. Further research on these medicinal plants will ensure resources for new food crops and medicines. A sense of value towards the conservation of biodiversity of the area by harnessing it as medicine is important as millions of rural households use plants for self-medication and local healers are prevalent.

Keywords: *Taxonomic diversity, Ailments, Biodiversity, Medicinal value, Conservation, Tonk District.*

INTRODUCTION

Medicinal plants play a pivotal role in providing primary health care to human populations, since the inception of civilization. The knowledge of medicinal plants has been gathered from discrete medicinal systems such as Ayurveda, Unani and Siddha. In India alone, it has been described that traditional healers use 2,500 plant species and 100 species of plants provide a regular source of medicine (Prabhu, & Kumuthakalavalli, 2012). In the last few decades, an increasing interest in the study of traditional uses of medicinal plants has been witnessed in different parts of the world mainly due to many problems associated with synthetic drugs and emergence of multi-drug resistant pathogens (Singh et al. 2012).

Plants are used as medicines from time immemorial. India has the rich heritage of using medicinal plants in folklore practices (Purushothaman et al. 2010). It is estimated that around 80% of the people all over the world depend upon traditional healthcare system and mainly on herbal medicines (Aryal et al. 2009). India harbors about 15 percent (3000 to 3500) medicinal plants which are found growing wild in different climatic conditions of the country (Goleniowski et al. 2006).

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These medicinal plants have a long history in many indigenous communities and continue to provide useful means for treatment of various diseases (Farombi, 2003). This information provides platform to several botanists and plant scientist who are handling researches towards the discovery or rediscovery of several medicinal plants along with remedies for various diseases (Muthukumarasamy et al. 2013a,b, Rajendran et al. 2002, 2003, Ganesan et al. 2005, Ignacimuthu et al. 2006, 2008). The objective of the present study was to conduct an ethno botanical study about taxonomic diversity of medicinal plants which are used to cure various ailments in Tonk district, Rajasthan, India.

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

A personal investigation was conducted among various age groups of people of Tonk district to collect information about various medicinal plants used. 200 participants were met and the results were tabulated, using knowledge of taxonomic characters.

RESULTS AND DISCUSSION

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 ranging from simple coughs and cold to paralysis and 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[14]. In the present study, root, stem, bark, buds, flowers, fruits and seeds were also used; in addition to whole plants, in some cases.

This study clearly reveals that of all the plants used to treat various diseases, majority 49 were trees, 23 were herbaceous in habit, 19 were shrubs while only 4 were lianas as enlisted in Table 1 and represented by Fig. 1.

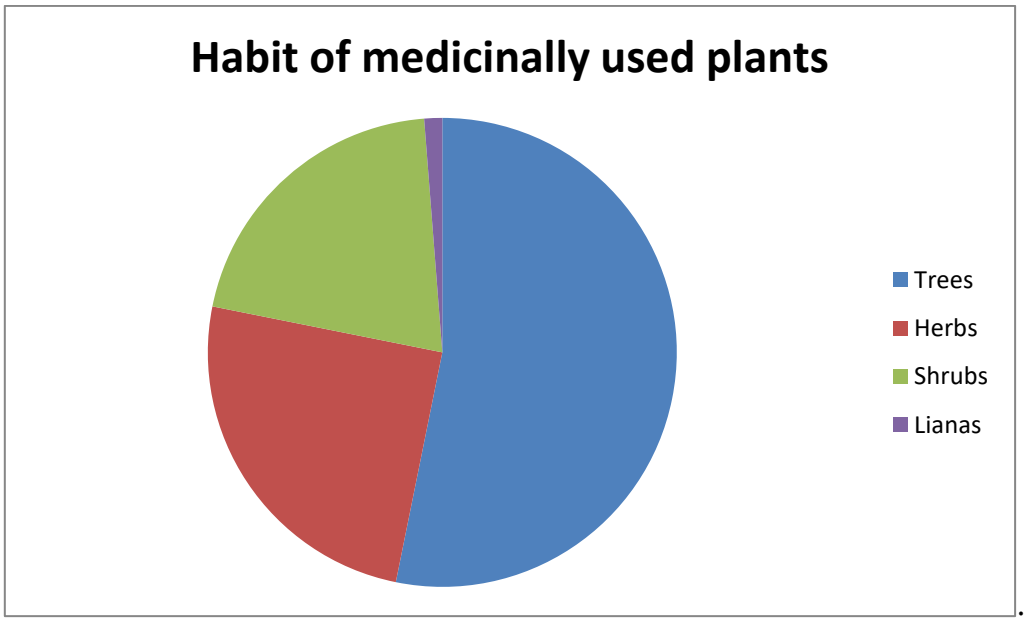

Fig. 1: Representation of habits of the plants used medicinally

Table 1: Number of families and plants used by local people of Tonk District

S.No	Family	Number of plants
1	Acanthaceae	03
2	Amaranthaceae	01
3	Anacardiaceae	02
4	Annonaceae	01
5	Apocynaceae	02
6	Arecaceae	01
7	Asclepiadaceae	03
8	Asparagaceae	01
9	Asteraceae	02
10	Bignoniaceae	01
11	Boraginaceae	02
12	Burseraceae	02
13	Cactaceae	01
14	Caesalpiniaceae	06
15	Cannabaceae	01
16	Capparaceae	01
17	Celastraceae	01
18	Cornaceae	01
19	Combretaceae	01
20	Commelinaceae	01
21	Convolvulaceae	02
22	Ebenaceae	01
23	Euphorbiaceae	04
24	Fabaceae	05
25	Lamiaceae	02
26	Liliaceae	02
27	Lythraceae	01
28	Malvaceae	02
29	Martyniaceae	01
30	Meliaceae	01
31	Menispermaceae	01
32	Mimosaceae	05
33	Moraceae	02
34	Myrtaceae	03
35	Nyctaginaceae	01
36	Oleaceae	01
37	Pandanaceae	01
38	Papaveraceae	01
39	Poaceae	02
40	Rhamnaceae	02
41	Rubiaceae	01
42	Rutaceae	05
43	Salvadoraceae	01
44	Simaroubaceae	01
45	Solanaceae	04
46	Sterculiaceae	01
47	Tamaricaceae	02
48	Tiliaceae	01
49	Ulmaceae	01
50	Verbenaceae	02
51	Zygophyllaceae	02

CONCLUSION

Thus, the present study helps us to comprehend traditional knowledge about medicinal plants and their practical utility. The conservation and use of medicinal plants should be enhanced for the amelioration of lives in the particular region studied. Further research on these medicinal plants will lead to the discovery of new sources of bioactive compounds.

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Conflict of Interest

The authors declare no conflict of interest.

Author Contribution

AK and DG designed the experiment, conducted the study and prepared the draft of the manuscript. SP conceptualized the study. AK, SP and DG contributed to the manuscript equally.

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