

Comparative study of ethno medicinal plants used by the tribals of Bhadradri Kothagudem district of Telangana and Siddharthnagar district of eastern Uttar Pradesh

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Abstract

Ethnobotanical field work is not the same as the normal field assortment, which are done typically by taxonomists or verdure authors. While taxonomist give accentuation on plants and their living space, the ethnobotanists, notwithstanding these angle, record the relationship of these plants with the neighborhood occupants. In this manner, the initial phase in ethnobotanical field work is to distinguish the nearby occupants or crude social orders and their local ward. Field concentrate in an ancestral territory gives direct data. Here the ethnobotanist separated from assortment of plant, likewise disks and records the employments of plants with the assistance of sources. Incredible persistence and diligence are needed in ethnobotanical study. Customarily utilized restorative plants have been a wellspring of alleviation in controlling different sorts of infections all through the globe. Ancestral individuals have customary information on plant species use for various purposes, for example, food, colors, gums, medication and so on. This paper reports an ethnobotanical study that focuses on the traditional medicinal plants used by local communities to treat human diseases. Ethnobotanical study of medicinal plants was carried out from June, 2017 to September 2019. The study is based on the documentation of medicinal plants used to treat various human diseases in the area. Ethnobotanical data were collected using semi structured interviews, group discussions with tribes, guided field walks, and observations with participants. The present paper reveals the study of 60 genera belonging to 37 families used by the tribes of Bhadradri Kothagudem district as well as Siddharthnagar district of Eastern Uttar Pradesh.

Keywords: ethnomedicine, herbal plants, bhadradri kothagudem district, Siddharth Nagar district, comparative study

Introduction

Ethnobotany is the investigation of restorative plants utilized by nearby individuals, with a specific significance on oldstyle ancestral convictions and data. The ethno botanical review can bring out various signs for the development of medications to treat human infections. Traditional medical practices are an important part of the primary health care system in the developing World. Presently a-days, a pattern in the investigation of restorative plants and their utilization in conventional medication have been drawing the consideration of various clinical experts all through the world. Individuals have become wellbeing careful; the phototherapy is more sheltered and compelling in restoring sicknesses with no side effects. Ethnic gatherings of different areas of the world are the genuine caretakers of nature's abundance and specialists in home grown medicine. The customary indigenous information moved orally for quite a long time is quick vanishing as a result of the innovative turns of events and changing society of ethnic gatherings. It is thus the investigation of ethnomedicine and its reclamation have been occurring^[1, 2]. In many developed and developing countries people rely on traditional medicines, particularly on plant based medication in essential medical services. The current pharmacopeia has in any event 25% medications got from restorative spices and others which are synthetic compounds isolated from herbs. The everyday interest for natural plants is becoming both in evolved and agricultural nations, the acknowledgment of regular harvests is developing, because of the way that they have small side effects and are

effectively available at sensible costs. They are the fundamental source in essential medical services of needy individuals. The Indian people have mind boggling want for natural plants and use them in the wide scope of utilizations from cold to mortal sicknesses. The recent evaluations show that there are more than 30,000 active plant-based formulations utilized in customary medication and known to far off networks all over from India^[3].

Bhadradri Kothagudem district is one of the rich biodiversity heritages of Telangana State forest with coverage area of 57.29% of its geographical area, whereas Siddharthnagar lies between 27°N and 27°28'N latitude and 82°45'E and 83°10'E longitudes. This was named after prince Siddharth the pre-enlightenment name of Buddha as he spent his early years (till the age of 29 years) in Kapilvastu. Both the districts are rich source of Ethno medicinal flora, many plant species are utilized as food, fodder, medicine and fiber. The Plants have been the major source of therapeutic agents for curing the human diseases. Tribal people of India have been using many plant species for curing their ailments like Diarrhea, Jaundice, Alopecia and Snake bite etc., since time immemorial. The use of herbal medicine is a common practice, in the agency area by the tribal people, who inhabit on the hill cliffs of the forest area. India represents one of the great emporia of ethnobotanical wealth. Indigenous medicine is now recognized worldwide as a health care resource. The therapeutic properties of plants have created world-wide interest about medicinal plants which lead to new source of drugs for wide modern usage. The present paper deals with

the plants most commonly used by different tribal populations of Bhadradi Kothagudem district of Telangana state, as well as Siddharthnagar district of UP.

Materials and Methods

Study-area

Bhadradi Kothagudem the eastern most district of the Telangana state is situated between 18° 13' and 17° 13' of Northern Latitude and 80° 12' and 81° 18' of the Eastern Longitude and spread over an area of 7,483 Sq.kms. The district is bounded on the north and north east by Bijapur and Sukuma districts of Chhattisgarh state, on east by East Godavari district, on south and south east by Khammam district and West Godavari district, on west by Mahabubabad district and on north west by Jayashanker Bhupalapally district. The forest is rain forest & tropical dry deciduous forest, occupying an area of 4286.98 Sq.kms, i.e, 57.29 of the geographical area. The area is dominated by the tribals like Kond Reddis, Koyas, Guttikoyas and Lambadas. Siddharthnagar is associated with the life of Gautam Buddha, founder of Buddhism. It is bordered on the north by Nepal on the east by Maharajganj district, on the south by Basti and Sant Kabir Nagar districts and on the west by Balrampur district. The district was carved out on December 29, 1988 by bifurcating Basti district. The district known for the ruins of the ancient capital of the Shakya Janapada, Kapilvastu at Piprahwa, 22 km from the district headquarter Navgarh. Gond, Dhuria, Nayak, Pathari, Raj Gond are the main tribes residing in this district.

Methodology

The extensive Ethno botanical exploration studies were conducted in Tribal dominated villages of Bhadradi Kothagudem district as well as Siddharthnagar district of

Uttar Pradesh during 2017-2019 along with local health healer Vejju. The ethnobotanical field survey was conducted according to the methods adopted by [4, 6]. Plant specimens were collected processed for herbarium and identified in accordance with standard methodology. The collected specimens were identified with the help of the regional and local floras [7, 8].

The voucher specimens were deposited in the Herbarium, Department of Botany, DDU University, Gorakhpur, Uttar Pradesh, India for future reference. The area under study was thoroughly covered and the people were interviewed for information. Most of the healers refused to join a local union or even to cooperate with local physicians because they are hesitant to interact with other people who have come from outside of their hamlets. Repeated proper field visits and interviews and questionnaires' helped in creating bonds with them. After that, majority of them shared their knowledge and herbal ingredients used were collected directly by these healers. Interviews were conducted at places where the informants were most comfortable. At the end of each interview, specimens of plants mentioned for medicinal uses were collected.

Results and Discussion

The present study focused mainly on comparative study of both states of the plant species used by the tribes for various medicinal uses. The alphabetical order of scientific name of the plants, their families local names, diseases, parts used, and ailments cured were recorded during the field work and uses are presented, in table-1. The photographs of some collected plants are given in Plate 1 and Plate 2. The information provided in the table is collected from local healers through



Fig 1

Interviews and discussions. They have good knowledge about the use of plants for curing various ailments and also

believe in supernatural powers which are also a part of their healing methods.



Fig 2

During the study period 64 plant species belonging to 60 genera and 37 families were identified as medicinal plants. Based on the major life forms, the maximum numbers of

plant species recorded were herbs with 29 spp (45%), followed by trees and climber having 13 spp (20%) and shrubs 9 spp (14%) (Fig.1).

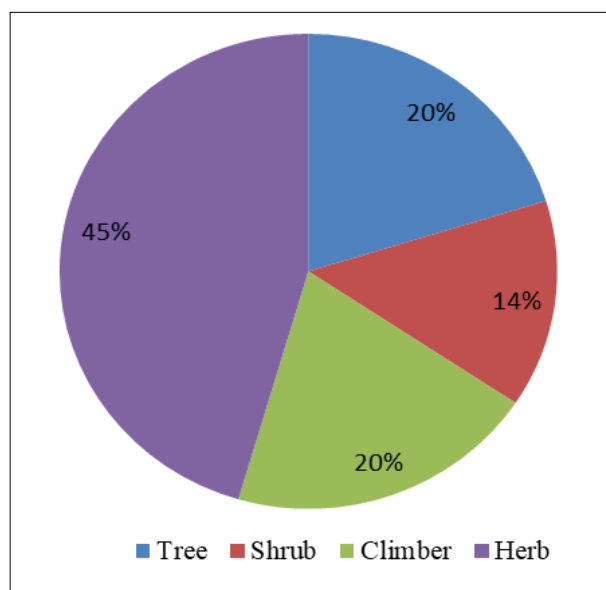


Fig 3: Habit wise diversity of Ethnomedicinal plants

The study shows a high degree of ethno botanical novelty and the use of plants among the tribes reflects the revival of interest in traditional folk culture. Utilization of plant species and plant parts are varying from state to state. A total of 14 % leaves, 8 % roots, 5 % of stem bark, 4 % fruits, 3 % seeds, 2 % rhizome and 1 % bulbs, tubers are used in Bhadradri Kothagudem district to cure various diseases. On

contrary the 28 % leaves, 14 % roots, 6 % stem bark and seeds, 3 % fruit, 2 % rhizome and 1 % bulbs used to cure several ailments in Siddarthnagar district. The 21 % whole plant are reported to be used as traditional medicine in Badradri Kothagudem District, Telangana whereas 15 % whole plant are used in Siddarthnagar, Uttar Pradesh as shown in Fig. 2.

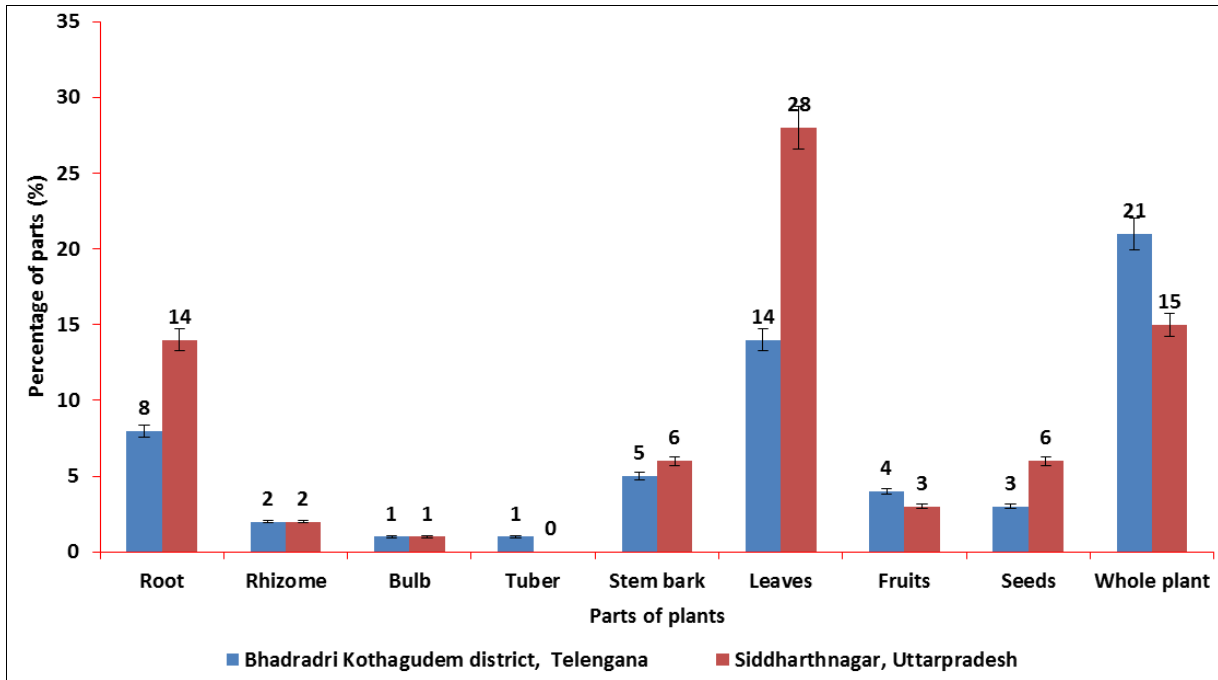


Fig 4: Parts using from the Different Plants in the studied area

These plant species are used for the treatment and prevention of many ailments and diseases grouped under 12

ailment categories (Fig.3). The main ailments in the study area were alopecia,

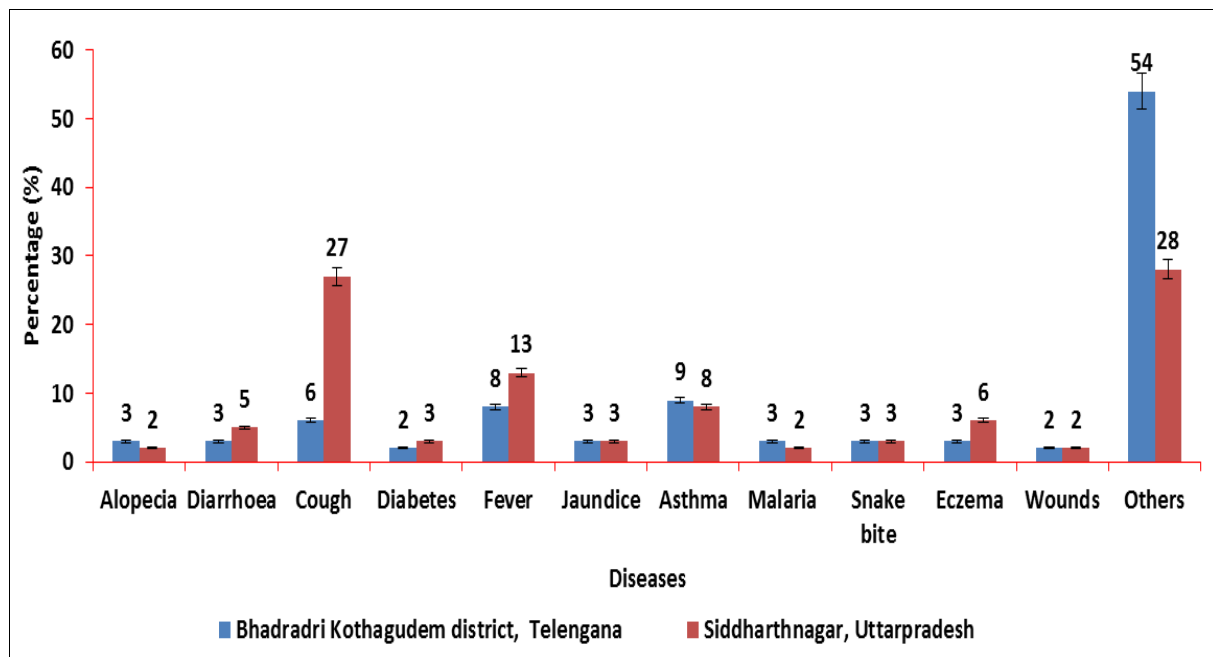


Fig 5: The different elements of study area grouped under different ailment categories

Diarrhoea, cough, diabetes, fever, jaundice, asthma, malaria, snake bite, eczema wound healing and other diseases. A very good percentage of medicinal plant species are available for the treatment of cough (27%), fever (13%), eczema (6%), diarrhoea (5%), diabetes (3%) in

Siddharthnagar, Uttar Pradesh whereas in Badradri Kothagudem District of Telangana, 2-8% plants are obtainable to cure the main ailments as shown in Fig. 3. Half of the remedies for the above ailments are taken orally, followed by external application. Generally, fresh part of the

plant is used for the preparation of medicine. To improve the acceptability of certain oral remedies, additives are frequently used. Most of the reported preparations in the area are drawn from a single plant and combinations of several plants are used. In other parts of the country, the use of mixtures of plant species in treating a particular ailment is fairly common^[9-10]. The present study revealed that the local traditional healers of Siddarthnagar district of Uttar Pradesh and Badradri Kothagudem District of Telangana are rich in ethnomedicinal knowledge and the majority of people rely on plant based remedies for common health problems like diabetes, malaria, body ache, constipation, indigestion, cold, fever, diarrhea, dysentery, wounds, skin diseases, urinary troubles, etc. The review likewise uncovered that all the conventional healers have solid confidence on ethno-drugs despite the fact that they were less cognizant about the documentation and safeguarding of ethno restorative fables and therapeutic plants. The group conversation and individual meetings show that adolescents of the both state are less mindful about the utilization of ethnomedicines and these observations are similar to reports from India^[11]. Then again, conventional healers who are the primary store of ethno therapeutic information guarantee outrageous mystery over their Ethnomedicinal information. The traditional healers have strong believe that in the event that they reveal the mystery about the therapeutic properties of specific plant all the restorative possibilities of the plant will be lost and the cure won't work appropriately. The examination inferred that the nearby and ancestral individuals of the contemplated territory have generally excellent information on the utilization of therapeutic plants. In any case, such information on restorative plants is limited to a couple of people in country territory. Along these lines it is vital that appropriateness prerequisites are required to secure the customary information in a specific region concerning therapeutic plant use and it was discovered that conventional ethno-medication actually continues among the ancestral's of both examined locale of two diverse states.

Conclusions

The medico-plant examination of Siddarthnagar area of Uttar Pradesh and Badradri Kothagudem District of Telangana has found that the clans have great information on plant-based medication however as individuals are towards in cutting edge presentation to change, their data on conventional employments of plants is gradually getting disintegrated. Along these lines, it is huge to study and record the employments of plants by various clans and sub-clans on need focused on future examination for item advancement. These investigations may likewise manage the cost of certain pieces of information to normal items researchers for phytochemical examination for any novel particles or synthetic substances for treating various sicknesses.

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Conflict of interest

We declare that we have no conflict of interest.

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