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An Ethnobotanical Study of Medicinal Plants in Jaipur District and Adjoining Area.

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Abstract

A comprehensive study was conducted in the Jaipur district to explore the traditional medicinal plants used by the local community. The main objective was to identify and document these plants, along with the associated ethnobotanical knowledge. Various methods, such as field walks, interviews, and direct observations, were employed to collect relevant data. The information was then crosschecked and verified through group discussions and the informant consensus method. Both descriptive statistics and quantitative ethnobotanical methods were used to analyze the data. In total, 106 species from 98 genera and 46 families were documented based on their medicinal values according to local claims. It was found that most of these plants are collected from the wild by the local users. The study also revealed the presence of 347 species from 261 genera and 93 families of flowering plants. This indicates the transfer of traditional medicinal knowledge from generation to generation. However, it was reported that the wild medicinal plants are facing threats due to increased use and unsustainable harvesting practices targeting leaves, roots, and barks. This calls for immediate collaborative efforts to strike a balance between the availability of medicinal plants in the wild and their utilization by the community. Additionally, the study aimed to prioritize the most effective medicinal plants as identified by the local people for potential pharmacological testing.

Keywords: Jaipur District (Rural and urban), ethnobotany, Indigenous knowledge

Introduction

Rajasthan is one of the largest states of India. About 12.44% of the population belongs to tribes such as the Bhil, Bhil-Meena, Damor, Dhanka, Garasia, Kathodi, Kokna, Kolidhor, Naikara, Patelia, Meena, and Seharia and reside in remote areas devoid of basic infra-structure facilities. Nomadic tribes (Banjara, Gadolia- Lohar, Kalbelia, Sikligar, Kanjar, Sansi, and Bagri) further enrich the ethnic heritage of Rajasthan. These ethnic groups are widely distributed throughout the state and have considerable communication with each other. As a result, most of the ethnobotanical information is passed by one group to the other. Sharma et al (1968) enlisted 248 botanical drugs which are mentioned mainly in Atharvaveda and Rigveda. Published a glossary of such medicinal plants, which have been mentioned in Charak Samhita, Sushurta Samhita and Ashtanga Hridiyam. In ayurvedic system of medicines a large number of plants are employed for the treatment of several diseases like Alzheimer's disease, AIDS, cancer, depression, nervous disorders, diabetes, rheumatism, leprosy, skin disease, urinary stone track. Rajasthan has rich biodiversity consisting of a large number of plants, some of which are used for their medicinal value. The herbal medicines used in Rajasthan (India) Datura metel L., Eclipta alba L., Emblica officinalis Gaertn, Eugenia jambolana Lam., Ficus benghalensis L., Gloriosa superba L. and Kyllinga Monocephala Rottb.

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Although, flora of Rajasthan has been compiled by Bhandari (1990) and Sharma et al (1993) but detailed information about their medicinal properties are lacking. The present work highlights the importance of ethno medicinal plants from Jaipur districts (Rural and urban).

Historical Overview

For countless millennia, the bountiful realm of nature has bestowed upon humanity an array of curative agents. Astonishingly, vast assortments of contemporary medications have been extracted from these natural sources, with their origins tracing back to the traditional medicinal practices that first recognized their remarkable potential (Cragg and Newman, 2001). The utilization of medicinal herbs in primary healthcare assumes a pivotal role owing to their economic advantage, minimal adverse effects, and reduced toxicity in comparison to contemporary allopathic drugs

Approximately 80% of the inhabitants residing in rural regions continue to rely on the utilization of medicinal flora for their well-being. In the realm of developing nations, where the foundations of basic healthcare are lacking, traditional remedies emerge as a remarkable substitute for primary health needs (Hu et al. 2020). The indigenous communities have been preparing medicine from the available therapeutic plants, which are widely used to treat women's diseases. Indigenous people depend on medicinal plants because of their effectiveness, lack of basic health facilities, and ethnic preferences (Khattak et al. 2015). The profound wisdom embedded within the ancient lore of indigenous flora has proven to be an invaluable wellspring for the unearthing of countless essential contemporary medications. Astonishingly, a staggering quarter of all medicinal herbs utilized in modern pharmaceuticals are derived from botanical sources (Tufail et al. 2020). The exploration of indigenous flora and its medicinal properties holds great significance in unearthing novel herbal remedies (Ahmad et al. 2017). Herbal Medicine, a discipline rooted in the utilization of plant-based concoctions for the relief of ailments, stands as a distinguished branch within the realm of science. Under various appellations such as botanical medicine or phytomedicine, it has recently gained recognition as phytotherapy, a more precise synonym. In the earlier days of the twentieth century, herbal medicine flourished as the primary healthcare system due to the absence of antibiotics and analgesics. However, with the emergence of the allopathic medical system and its swift-acting synthetic drugs, herbal medicine gradually relinquished its standing among the populace, losing favor and popularity (Singh, 2007). In recent times, there has been a notable shift in the global trajectory, as humanity gravitates towards a return to nature, forsaking synthetic remedies in favor of herbal medicine. Throughout the annals of history, medicinal plants have held an esteemed position, revered for their remarkable potential in providing therapeutic relief and safeguarding against various afflictions and maladies (Sharma et al. 2008). The quest for everlasting vitality and the pursuit of relief from suffering and unease compelled our ancestors to venture into the depths of their natural surroundings, ultimately giving rise to the utilization of numerous botanical specimens, animal derivatives, precious minerals, and other resources. This relentless exploration engendered a diverse array of therapeutic concoctions, forging a path towards eternal well-being and longevity (Nair and Chanda, 2007). Throughout history, plants have been utilized as remedies. In fact, studies on wild animals have shown that they instinctively consume specific plants to address certain ailments. In Asia, the utilization of herbal medicine has a well-established and extensively documented history. Consequently, many of the globally recognized medicinal plants originate from China and India. In Europe and North America, the utilization of herbal medicine is rapidly increasing, particularly for rectifying imbalances caused by modern diets and lifestyles. Nowadays, a considerable number of individuals consume medicinal plant products on a daily basis, not only to

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treat illnesses but also to maintain good health. The significance of medicinal plants and traditional health systems in resolving global healthcare challenges is garnering more attention. This renewed interest has led to a remarkable growth in international research on plants with medicinal properties, albeit at the expense of natural habitats and original populations in their countries of origin. Numerous developing nations have embraced traditional medical practices as an essential aspect of their cultural heritage. Historically, all medicinal preparations, whether in the form of raw plant materials or refined crude extracts and mixtures, have been derived from plants etc (Krishnaraju et al. 2005). Throughout the early advancement of modern medicine, the utilization of biologically active substances derived from higher plants played a crucial role in providing remedies for pain and diseases. An illustrious example of this can be found in The British Pharmacopoeia of 1932, where a substantial majority of the organic monographs centered around plant-derived products. However, the emergence of synthetic medicines, followed by the introduction of antibiotics, led to a significant decline in the prominence of therapeutic agents sourced from plants, particularly within economically developed nations. Hence, by the time The British Pharmacopoeia of 1980 was published, the proportion of plant-based monographs had diminished to roughly 20%. Furthermore, when considering the introduction of novel chemical entities as medicinal agents over the past few decades, the contribution of plant-based drugs has been limited to a mere 2% (Dev, 1997). From the era of colonization, botanists and adventurers have diligently documented the various ways in which plants are utilized. These colonial Floras, often revered as comprehensive compendiums of plant usage, have provided a solid foundation for the field of systematic botany, which is deeply entrenched in the practical applications of plants for humanity. Regrettably, the records concerning traditional plant utilization prior to colonization are scant and require inference based on contemporary accounts and present-day customs. Archaeological records could give some insight, such as rock paintings and engravings depicting ***Harpagophytum procumbens, Stapelia flavirostris, Acacia tortilis, Rhus lancea, Massonia bowkeri*** and ***Boophane disticha*** (Wilman, 1968) and ***Aloe ferox*** and ***A. broomii*** (Reynolds, 1950). Most studies have concentrated on a single cultural group - examples are the classical works on the ethnobotany of the Zulu (Bryant, 1966) and the San (Story, 1959). Several more recent studies are listed below. Name lists and dictionaries (Van Warmelo, 1937; Smith, 1966) contain significant numbers of ethnobotanical anecdotes but these were often overlooked, underestimated or misinterpreted. Smith (1966), for example, is notable by its absence from the excellent review on ethnobotany by Liengme (1983). In light of recent shifts in the socio-political realm, there has been a notable surge in intrigue surrounding ethnobotany. The significance of indigenous wisdom and its intersection with ethnobotany in fostering an Indian renaissance should be glaringly apparent to all. It becomes abundantly clear that a revival or reawakening is scarcely attainable if the invaluable reservoir of ancient knowledge has been irretrievably lost. Throughout the ages, indigenous communities have cultivated their own distinctive and intricate expertise in the utilization, cultivation, and preservation of plants, tailored to the unique characteristics of their local surroundings (Cotton, 1996). So, it's really important for people to keep and share their knowledge about plants and how they're used in different cultures. This helps protect the variety of plants and animals in the world (Martin, 1995; Balick and Cox, 1996). The realm of traditional medicine predominantly revolves around the utilization of various plants, a multitude of which remain unexplored in terms of their chemical makeup and therapeutic potential. Consequently, delving into the study of these plants becomes an intriguing pursuit, aiming to validate the time-honored wisdom of traditional medicine, while also assessing the advantages, drawbacks, and constraints they may entail. In pursuit of a deeper understanding of the potential benefits of medicinal plants, extensive ethnopharmacological investigations have been

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conducted across various regions (Diallo et al., 1999, 2002; Inngjerdingen et al., 2004; Togola et al., 2005; Gronhaug et al., 2008; Pham et al., 2011). Various parts of medicinal plants or trees, such as leaves, stems, bark, roots, or the entire plant, were utilized in diverse preparations for traditional purposes. As a result of the developing of ITMs, the demands of some of the medicinal plants and trees were significant increased. Ethnobotanical research is crucial to understanding relationships between people and their biological environment (Thomas, 2003). Global or regional studies which compile and analyze data from multiple literature sources can lead to a general understanding about plant use (de Medeiros et al., 2013; Saslis-Lagoudakis et al., 2012; Weckerle et al., 2011), but the availability of appropriate data is a limitation to broad-scale research (Albuquerque and de Medeiros, 2012). Herbaria are repositories of information in the form of vouchers, originally serving economic botany, and increasingly seen primarily as resources for plant taxonomy (Bebber et al., 2010; Van Andel et al., 2012). Today the wider value of herbaria is appreciated (Lavoie et al., 2013); herbaria worldwide house more than 300 million specimens collected over 400 years, and as such are a rich repository of specimen collection dates and localities (Thiers, 2014). However, the potential of herbarium specimens to enhance our understanding of ethnobotanical information that is not documented in publications, bridging gaps in our knowledge and supplying data for analysis, is still only partially investigated. Ethnobotanists regularly collect and reference herbarium specimens, and certain journals, like Economic Botany, mandate the inclusion of voucher specimens in conjunction with utilization reports. Nevertheless, there may be instances where specimens lacking official documentation for published studies contain valuable usage data. In her seminal work published in 1962, von Reis conducted an extensive investigation into the prevalence of ethnobotanical knowledge within herbarium collections. Remarkably, her study unearthed a staggering 6,800 specimens within the prestigious Harvard Herbarium, totaling a remarkable 2,500,000 specimens, that documented medicinal applications. It is worth noting that von Reis deliberately omitted any specimens that had already been published or were widely recognized in order to focus on previously undocumented ethnobotanical insights. Ever since von Reis outlined the benefits of exploring herbaria for fresh accounts of utilization, surveys of herbariums have emerged as a modest yet recognized reservoir of ethnobotanical information (Jenks & Kim, 2013; Krishna et al., 2014; Shinde and Prakash, 2015). Since herbaria are rich in historical data, they have found particular use in documenting change (Nesbitt, 2014). In recent times, the burgeoning discipline of ethnogynecology has emerged, encompassing the utilization of botanical remedies to alleviate various gynecological ailments. This age-old practice represents a time-honored approach to women's health concerns, as indigenous communities within this specific geographic region have long relied upon the healing properties of medicinal plants to address issues pertaining to menstruation, abortion, menopause, leucorrhea, glandular abortion, and infertility (Patel & Patel, 2012). It has been posited that a staggering 18% of the worldwide encumbrance of sexual and various procreative health quandaries (Khan et al., 2015). Postpartum haemorrhage, a tragic cause of mortality among women during childbirth, claims a staggering 25% of lives. This distressing condition manifests as excessive blood loss within the crucial first day after delivery. In contemporary medicine, surgical interventions, non-steroidal analgesics, and allopathic anti-inflammatory drugs stand as the prevailing remedies for gynecological ailments. Remarkably efficacious, these treatments, unfortunately, bring forth a litany of undesirable consequences, including complications in sexual function following hysterectomy, gastrointestinal disturbances, dermatological afflictions, and, most gravely, drug-induced afflictions of the kidneys, liver, and heart, especially when administered over a prolonged duration (Jan et al. 2020). Global health organizations often overlook the significance of menstrual disorders as critical health issues, despite

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their potential to disrupt women's daily lives. Given the limited accessibility to analgesics and sanitation facilities in various regions such as Latin America, Africa, and Asia, women often turn to traditional medicine as a preferred remedy. It is imperative to address these conditions with efficacious and secure medications (Van Andel et al. 2012). In rustic environs, womenfolk frequently find themselves grappling with gynaecological afflictions, even amidst the delicate stage of gestation, owing to destitute living conditions, malnourishment, and arduous toil. Within these bucolic landscapes, a plethora of 6,000 blossoming botanical species flourish, wherein a notable 600 possess significant medicinal applications (Jima & Megersa 2018). There is not a lot of work happening in India and around the world. Also, because things are changing and young people aren't as interested in old knowledge, that knowledge might go away if we don't write it down. The goals of this study are

- To record ethno medicinal data on traditional herbal remedies used for the treatment of diseases in Jaipur District, of Rajasthan.
- To quantify qualitative and quantitative characteristics of the medicinal plants to treat women's diseases from the study area by using various indices.

Study area

In this picturesque region, the Aravalli hill ranges boast a rich diversity of flora and fauna. However, due to the fragmentation of vegetation, these ranges have become ecological islands. Despite being surrounded by agricultural land, the presence of abundant wildlife in the fields indicates an unrestricted passage for these magnificent creatures. The study area is truly a haven for wildlife, offering a glimpse into the untamed beauty of Rajasthan. Among the nomadic tribes that roam these lands, the Gadoliya Lohar and Kalbelia stand out as the most renowned. The Kalbelia, often found in townships and dearas, possess an innate knowledge of treating snake bites and scorpion stings, utilizing the healing properties of various plants. The Kanjar, Sansis, and Mogiyas, on the other hand, lead a semi-nomadic existence, relying on the forest for shelter and healthcare. The rural economy in Rajasthan thrives on the rearing and breeding of cattle, making agriculture the primary source of income for these villages. Rajasthan, originally known as Rajputana, was a realm ruled by the illustrious Rajputs and evokes a sense of grandeur. Within the Jaipur region, there are 15 distinct Panchayat Samiti, such as Amber, Jalsu, Jhotwara, and Sanganer, each with its own unique characteristics. Adding to the diversity of this enchanting land are various ethnic communities, including the Bhil, Meena, Kanjar, and Gurjar, all contributing to the vibrant tapestry of Rajasthan. However, it is important to note that the degradation of forest areas, expansion of agriculture fields, and other land uses pose challenges to the environment. The city of Jaipur, located in Rajasthan, India, has latitude of 26.922070 and a longitude of 75.778885. It falls within the country of India and is categorized as a city. The GPS coordinates of Jaipur are 26°55' 19.4520" N and 75°46' 43.9860" E.

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Material and methodology

The survey was meticulously executed in the rural districts of Jaipur, a captivating region in the culturally rich state of Rajasthan. It aimed to gather comprehensive insights into the usage patterns of medicine among the local population. The plants were identified by using standard monographs and flora (Bhandari, 1990; Sharma, 1993), The accumulation of ethno medicinal knowledge regarding the flora was obtained through regular and insightful dialogues with local healers, rural inhabitants, spiritual leaders, and indigenous communities. From September 2018 to May 2020, a comprehensive research endeavor was undertaken. Extensive field interviews were meticulously carried out, engaging the invaluable perspectives of local inhabitants, with a particular focus on the esteemed women of the community and the revered herbal practitioners, known colloquially as Hakeem's. Employing the use of semi-structured questionnaires and intimate face-to-face interactions, an unbiased selection process ensured the participation of respondents was truly random. The questionnaires accurately recorded the demographic details (including age, gender, education, and occupation) as well as the vernacular names, utilized parts, preparation methods, administration routes, and treated ailments of the subjects. Furthermore, the survey encompassed key attributes of the participants, encompassing their geographic nomenclature, plant utilization, accessibility, method of administration, and curative properties against various maladies.

Result and discussion

In order to provide a comprehensive overview, all 93 families have been categorized based on the number of genera and species, and a detailed alphabetical list can be found in Table 5.1. This comprehensive study reveals a total of 347 species, spanning across 261 genera and 93 families of flowering plants (Table 5.1). A close examination of the data shows that the ratio of genera to species is 1:1.32, which may seem relatively low when compared to the national ratio of 1:7. However, it aligns quite well with the ratios observed in the Gangetic plain region (1:2.2) and Delhi state (1:1.63), as reported by Maheshwari in 1963. Furthermore, the analysis of Table 5.1 unveils an intriguing similarity in the occurrence percentage of both genera (81.22%) and species (81.84%)

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within the Dicotyledon category. This resemblance is also evident in the Monocotyledonous group, with 18.78% of genera and 18.16% of species. Notably, the dominant family in the entire study area is Leguminoseae, with 45 species. Following closely is Poaceae with 36 species, while Asteraceae, Euphorbiaceae, Convolvulaceae, Malvaceae, Acanthaceae, Amaranthaceae, Cyperaceae, Tiliaceae, Cucurbitaceae, Solanaceae, and Scrophulariaceae occupy the subsequent positions with varying numbers of species. Among the dicots, the Polypetalae group takes the lead, followed by Gamopetalae and Monochlamydae. In contrast, the representation of monocots in this area is relatively modest. Out of 63 species from 49 genera, a majority of 45 species under 32 genera belong to Cyperaceae (9 species across 3 genera) and Poaceae (36 species across 29 genera). This distribution pattern further supports the general observation that smaller floras tend to have smaller species-genus ratios within the same floral region.

Table 5.1: - Number of genera and species in different families of angiosperms

S. No.	Family	Genus/ Genera (Number)	Species (Number)
1	Ranunculaceae	1	1
2	Annonaceae	1	1
3	Menispermaceae	3	4
4	Nymphaeaceae	1	1
5	Nelumbonaceae	1	1
6	Papaveraceae	1	1
7	Fumariaceae	1	1
8	Brassicaceae	2	2
9	Cleomaceae	1	2
10	Capparaceae	3	4
11	Cochlospermaceae	1	1
12	Flacourtiaceae	1	1
13	Caryophyllaceae	4	4
14	Portulacaceae	1	1
15	Elatinaceae	1	1
16	Malvaceae	8	11
17	Bombacaceae	1	1
18	Sterculiaceae	3	3
19	Tiliaceae	3	7
20	Zygophyllaceae	1	1
21	Oxalidaceae	1	2
22	Rutaceae	2	2
23	Simaroubaceae	1	1
24	Balanitaceae	1	1
25	Burseraceae	1	1

26	Meliaceae	3	3
27	Celastraceae	2	2
28	Vitaceae	2	2
29	Rhamnaceae	1	2
30	Sapindaceae	1	1
31	Anacardiaceae	2	2
32	Moringaceae	1	2
33	Fabaceae	20	27
34	Caesalpiniaceae	5	9
35	Mimosaceae	5	9
36	Rosaceae	1	1
37	Combretaceae	2	4
38	Myrtaceae	1	1
39	Lythraceae	4	4
40	Trapaceae	1	1
41	Cucurbitaceae	5	7
42	Molluginaceae	2	2
43	Apiaceae	1	1
44	Aizoaceae	2	2
45	Alangiaceae	1	1
46	Rubiaceae	6	6
47	Asteraceae	18	20
48	Primulaceae	1	1
49	Plumbaginaceae	1	1
50	Sapotaceae	2	2
51	Ebenaceae	1	2
52	Salvadoraceae	1	1
53	Apocynaceae	3	4
54	Asclepiadaceae	2	3
55	Periplocaceae	3	3
56	Gentianaceae	2	2
57	Boraginaceae	2	4
58	Ehretiaceae	2	2
59	Convolvulaceae	6	13
60	Cuscutaceae	1	1
61	Solanaceae	4	7
62	Scrophulariaceae	6	7
63	Lentibulariaceae	1	1
64	Bignoniaceae	2	2
65	Martyniaceae	1	1
66	Acanthaceae	9	10
67	Verbenaceae	4	5
68	Lamiaceae	2	4
69	Nyctaginaceae	1	1

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70	Amaranthaceae	7	9
71	Chenopodiaceae	1	2
72	Basellaceae	1	1
73	Polygonaceae	2	4
74	Aristolochiaceae	1	2
75	Loranthaceae	1	1
76	Euphorbiaceae	8	15
77	Ulmaceae	1	1
78	Cannabinaceae	1	1
79	Moraceae	1	6
80	Ceratophyllaceae	1	1
81	Hydrocharitaceae	2	2
82	Liliaceae	3	3
83	Pontederiaceae	1	1
84	Commelinaceae	1	2
85	Najadaceae	1	1
86	Juncaceae	1	1
87	Arecaceae	1	1
88	Typhaceae	1	1
89	Lemnaceae	3	3
90	Alismataceae	1	1
91	Potamogetonaceae	1	1
92	Cyperaceae	3	9
93	Poaceae	29	36
Total	**93 Families**	**261 Genera**	**347 Species**

The utilization of plants or their various parts for treating different ailments is a prevalent practice among the rural inhabitants of the study area. This research provides valuable insights into the medicinal properties of 121 plant species, consisting of 117 flowering plants and 4 ferns, which are employed to combat the diseases affecting the local population. The findings reveal that the usage of these 121 medicinal plants is distributed among different plant parts, with leaves accounting for 52.06%, roots for 29.75%, seeds for 23.14%, the whole plant for 22.31%, fruits for 20.66%, stems for 14.04%, bark for 13.22%, flowers for 7.43%, wood for 1.65%, and rhizome for 1.65%. This

Table 5.2: - Proportional relationship of dicotyledonous and monocotyledonous taxa in reserve forest and biological parks of study area.

Groups	**Families**		**Genera**		**Species**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Dicotyledons	79	84.94	212	81.22	284	81.84
Monocotyledons	14	15.06	49	18.78	63	18.16
Total	**93**	**100**	**261**	**100**	**347**	**100**

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demonstrates the extensive and diverse range of plant resources that are relied upon by the indigenous and tribal communities of the study area.

Table 5.3: - Plants parts used in medicine

No.	Parts used of medicinal plants	Percentage
1	Rhizome	1.65
2	Root	29.75
3	Stem	14.04
4	Bark	13.22
5	Wood	1.65
6	Whole plant	22.31
7	Leaves	52.06
8	Flowers	7.43
9	Fruits	20.66
10	Seeds	23.14

Table 5.18 illustrates the prevalence of various types of medicinal plants in the studied area. It is with utmost grace and elegance that we highlight the fact that the majority of these plants, a staggering 37.19%, are none other than exquisite herbs. Following closely behind are the majestic trees, making up 33.88% of the plant population. Delicate shrubs, with their ethereal beauty, comprise 11.57% of the area's medicinal flora. Beneath them, the enchanting under shrubs capture our attention, accounting for 9.91% of the habitat. The herbaceous climbers, gracefully intertwining with their surroundings, contribute a modest yet significant 4.95%. Lastly, we must not forget the enchanting lianas, a rare and exotic presence, representing a mere 2.48% of this captivating natural landscape.

Table 5.4:-Nature (habit) of medicinal plant

S.No.	Habit of the medicinal plant	Habit of the medicinal plant
1	Herbs	37.19
2	Herbaceous climber	4.95
3	Lianas	2.48
4	Under shrubs	9.91
5	Shrubs	11.57
6	Trees	33.88

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The enchanting realm of medicinal plants in the study area unraveled a remarkable tapestry of 121 species, as gracefully depicted in Table 5.4. Amongst this captivating assortment, a distinguished 42.14% were embraced by the noble Phanerophytes, while the elegant Therophytes, Hemicryptophytes, Cryptophytes, and Chamaephytes graced the landscape with their presence, accounting for 35.54%, 12.39%, 5.79%, and 4.13% respectively. These exquisite life forms bestow upon us a captivating glimpse into the bountiful wonders of nature's healing treasures.

Table 5.5:- Life form in medicinal plants of study area

No.	Life Form in Medicinal Plants of Study Area	Percentage
1	Phanerophyte (Ph)	42.14
2	Chamaephyte (Ch)	4.13
3	Hemicryptophyte (He)	12.39
4	Cryptophyte (Cr)	5.79
5	Therophyte (Th)	35.54

Conclusion

According to a report by the World Health Organization (WHO), many diseases that are prevalent in modern society are considered to be lifestyle diseases. In India, medicinal plants play a crucial role in providing healthcare to approximately 80% of the population. These plants are not only important for traditional medicine, but they also serve as valuable sources of ingredients and products for industries such as pharmaceuticals, food, cosmetics, and agrochemicals. As researchers continue to search for new drugs, they are increasingly turning to the natural world for potential solutions. Additionally, traditional medicines are gaining popularity due to their minimal or non-existent residual toxicity. Initially, plants were primarily used in folk medicines, but over time this practice gave rise to traditional systems of medicine like Ayurveda in India. In the state of Rajasthan, tribal communities have been utilizing herbal medicine for a long time. Our research has shown that plants in this area play a significant role in treating various diseases including rheumatism, diarrhea, tuberculosis, joint pain, cancer, dysentery, malaria, diabetes, skin diseases, scurvy, respiratory disorders, asthma, and hormonal imbalances. While these plants are frequently used by tribal communities, some of their potential benefits have yet to be explored by modern medical science. This study primarily focuses on health and healing, especially in pastoral areas where modern healthcare facilities may be lacking or insufficient. Rural people, including traditional healers and midwives, possess invaluable knowledge of herbal remedies for treating different disorders. In our study area, therapeutic plant species are extensively used to address a wide range of health issues. The data collected in this survey will serve as a foundation for future research in the fields of phytochemistry, pharmacology, and clinical studies within the medical sciences. It is crucial to raise awareness among the local community in the research area about the sustainable use of these therapeutic plants to ensure their long-term conservation. The aim of our present research is to provide valuable ethno botanical information about the uses of plants by these

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tribal communities in Rajasthan. It is important to make efforts to conserve these ethno medicinal plants. Since different plant parts are used to treat various ailments, it is essential to monitor the ecological conditions to ensure the conservation of biodiversity in the Jaipur region. Rajasthan is known for its rich biodiversity, but the ever-changing climatic conditions and habitat destruction pose a threat to its natural resources. Our research seeks to prevent any potential consequences in the future and protect these important plants from becoming endangered species.

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