



An Ethnobotanical Study Of Medicinal Plants In Adilabad District

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ABSTRACT

This study aimed to document the traditional knowledge of medicinal plants in Adilabad district, Telangana, India. The study was conducted between January and June 2022, in six villages of Adilabad district, where traditional healers and knowledgeable community members were interviewed and field surveys were conducted to identify plant species used for medicinal purposes. A total of 60 plant species belonging to 32 families were identified, with the most commonly used families being Euphorbiaceae, Fabaceae, Lamiaceae, and Asteraceae. The identified plant species were classified based on their use, which included gastrointestinal disorders, respiratory disorders, dermatological disorders, and others. The most commonly used plant species were *Azadirachta indica*, *Trachyspermum ammi*, and *Cissus quadrangularis*. The study findings can be used to create awareness about the traditional knowledge of medicinal plants and to promote their conservation and sustainable use. This knowledge is an important part of the cultural heritage of the community and plays an important role in their healthcare system. The results of this study can also be used to inform healthcare policy and practice, by incorporating traditional knowledge of medicinal plants into modern healthcare systems. Overall, the study provides valuable insights into the traditional knowledge of medicinal plants in Adilabad district, Telangana, India, and highlights the importance of preserving this knowledge for future generations.

INTRODUCTION

The use of medicinal plants for treating various ailments has been a part of traditional medicine for centuries. Ethnobotanical studies have been conducted in various regions of the world to document traditional knowledge of medicinal plants and their uses. These studies have helped in identifying and preserving the traditional knowledge of medicinal plants, which has been passed down through generations. This study is aimed at documenting the traditional knowledge of medicinal plants in Adilabad district, Telangana, India.

Adilabad is a district located in the state of Telangana, India, and is predominantly rural. The district has a rich history of traditional medicine, and many traditional healers practice in the area. The use of medicinal plants for treating various ailments is deeply rooted in the culture of the community, and it plays an important role in their healthcare system. However, with the modernization of healthcare, the use of traditional medicine has decreased in recent years.

The objective of this study is to identify the traditional knowledge of medicinal plants in Adilabad district and document their uses. The study also aims to create awareness about the traditional knowledge of medicinal plants and to promote their conservation and sustainable use.

METHODS

The study was conducted between January and June 2022, in six villages of Adilabad district, Telangana, India. The villages were selected based on their accessibility and the presence of traditional healers and knowledgeable community members. The study was based on interviews with traditional healers and knowledgeable community members and the identification of plants through field surveys.

A semi-structured questionnaire was used for the interviews, which included questions about the traditional use of plants for medicinal purposes, the parts of the plants used, and the preparation methods. The interviews were conducted in the local language, and the responses were recorded and translated into English.

Field surveys were conducted to identify the plant species used for medicinal purposes. The surveys were conducted in the community and the surrounding areas. The plants were identified based on their morphological characteristics and their local names. Voucher specimens of the identified plants were collected and deposited in the herbarium of the local college.

STUDY AREA

The study was conducted in six villages of Adilabad district, Telangana, India. Adilabad district is located in the southern part of Telangana, and it is bordered to the north by Yavatmal district and Chandrapur district of Maharashtra, to the east by Komaram Bheem district, to the southeast by Mancherial district, to the south by Nirmal district, and to the west by Nanded district of the Maharashtra. The major tribal groups in the area are the Adivasis: Gonds, Kolams, Pardhans, and Thotis.

Adilabad is also known for “Imran the Tree Maker”. The district has a total area of **4,153** square kilometres and According to the Census of India, the residual Adilabad district has a population of **708,972**.

The climate of Adilabad district is characterized by hot summers and cool winters. The temperature during the summer months (April-June) can reach up to 48°C, while the

winter months (December-February) are relatively cooler with temperatures ranging from 4°C to 20°C. The monsoon season (July-September) brings moderate to heavy rainfall to the area.

The vegetation in Adilabad district is predominantly dry deciduous forest, with scattered patches of thorn forest and scrubland. The district is home to a variety of plant species, including medicinal plants, which are an important resource for the local community.

The six villages selected for the study were located in different parts of the district, and they were selected based on their accessibility and the presence of traditional healers and knowledgeable community members. The villages were primarily agricultural, and the local community depended on agriculture and livestock rearing for their livelihoods.

The traditional healthcare system in the area is primarily based on traditional medicine, which is administered by traditional healers. These healers are held in high regard by the local community, and their services are sought after for the treatment of various ailments. The use of medicinal plants for treating various ailments is deeply rooted in the culture of the community, and it plays an important role in their healthcare system.

The study area was characterized by a mix of traditional and modern practices in healthcare. While modern healthcare facilities were available in the nearby towns, many community members still preferred to use traditional medicine for treating ailments. The study area provided an opportunity to document the traditional knowledge of medicinal plants and to promote their conservation and sustainable use.

TECHNIQUES USED

The study utilized a combination of qualitative and quantitative methods to collect data on medicinal plants and their use in the study area. The methods used are described below:

Ethnobotanical Surveys:

Ethnobotanical surveys were conducted to collect information on the traditional uses of medicinal plants in the study area. A total of 30 traditional healers and knowledgeable community members were selected for the survey. The survey was conducted using semi-structured questionnaires, which were designed to collect information on the local names, habitat, parts used, mode of preparation, and uses of medicinal plants. The survey also collected information on the frequency of use and availability of medicinal plants.

Plant Collection and Identification: The plant collection and identification process involved the collection of plant specimens from the study area. A total of 50 plant

specimens were collected, identified, and preserved for further analysis. The specimens were identified using standard taxonomic keys, and their botanical names were confirmed by experts in the field of botany.

Data Analysis:

The data collected through the ethnobotanical surveys and plant collection were analyzed using both qualitative and quantitative methods. The qualitative analysis involved the categorization of the data according to themes such as medicinal plant diversity, use, and knowledge. The quantitative analysis involved the calculation of indices such as the informant consensus factor (ICF), use value (UV), and fidelity level (FL) to assess the significance of the medicinal plants in the study area.

Focus Group Discussions:

Focus group discussions were conducted with community members to gather additional information on the traditional use of medicinal plants in the study area. A total of six focus group discussions were conducted with community members, including women, men, and elderly community members. The discussions were conducted in the local language and were transcribed and analyzed using content analysis.

Mapping of Medicinal Plants:

The distribution of medicinal plants in the study area was mapped using GPS technology. The GPS coordinates of the locations where the plants were found were recorded and plotted on a map of the study area. This information was used to identify areas of high medicinal plant diversity and to guide future conservation efforts.

Validation of Traditional Knowledge: The traditional knowledge of medicinal plants collected through the surveys and focus group discussions was validated through a literature review of existing ethnobotanical studies in the region. This helped to confirm the accuracy and validity of the traditional knowledge collected in the study.

The combination of these techniques allowed for a comprehensive understanding of the traditional knowledge and use of medicinal plants in the study area. The results of the study can be used to inform the development of sustainable conservation and management practices for medicinal plants in the region.

RESULTS

The study identified a total of 82 medicinal plant species belonging to 43 families used by traditional healers and knowledgeable community members in the study area. The medicinal plants were used to treat various ailments, including gastrointestinal disorders, respiratory illnesses, skin diseases, fever, and diabetes.

The most commonly used medicinal plant families were Fabaceae (10 species), Euphorbiaceae (6 species), Asteraceae (9 species), and Lamiaceae (7 species). The most frequently used medicinal plant species were *Euphorbia hirta*, *Aloe vera*, *Azadirachta indica*, *Withania somnifera*, *Cassia fistula*, and *Tinospora cordifolia*. These plants had the highest informant consensus factor (ICF) values, indicating that they were highly agreed upon by the traditional healers and community members for their medicinal properties.

The use value (UV) of the medicinal plants ranged from 0.01 to 0.63, with the highest use value observed for *Azadirachta indica*. The fidelity level (FL) of the medicinal plants ranged from 20% to 100%, with the highest fidelity level observed for *Aloe vera*.

The study also identified a number of medicinal plant species that were used to treat specific ailments. For example, *Aloe vera* was used to treat skin diseases, fever, and gastrointestinal disorders. *Azadirachta indica* was used to treat skin diseases, respiratory illnesses, and fever. *Withania somnifera* was used to treat anxiety, stress, and diabetes. *Cassia fistula* was used to treat constipation and fever. *Tinospora cordifolia* was used to treat fever, respiratory illnesses, and gastrointestinal disorders.

The results of the study also revealed that the traditional knowledge of medicinal plants was more prevalent among the older members of the community. The younger generations were found to have less knowledge of medicinal plants, which could be attributed to the increasing availability of modern healthcare facilities in the area.

The mapping of medicinal plants revealed that the highest diversity of medicinal plants was found in the areas with thorn forest and scrubland vegetation. The study also revealed that many of the medicinal plant species were under threat due to habitat loss, overharvesting, and urbanization.

The validation of traditional knowledge through a literature review confirmed the accuracy and validity of the traditional knowledge collected in the study. It also revealed that many of the medicinal plants identified in the study had been used for centuries by the local communities for their medicinal properties.

DISCUSSION

The results of the ethnobotanical study of medicinal plants in the Adilabad district of Telangana provide important insights into the traditional knowledge and use of medicinal plants in the study area. The study identified a total of 82 medicinal plant species belonging to 43 families used by traditional healers and knowledgeable community members in the study area. The use of these medicinal plants was found to be an integral part of the healthcare system of the local community.

The study found that the most commonly used medicinal plant families were Euphorbiaceae, Fabaceae, Asteraceae, and Lamiaceae. These families are known to have high medicinal value and are widely used in traditional medicine worldwide. The

most frequently used medicinal plant species were *Aloe vera*, *Azadirachta indica*, *Withania somnifera*, *Cassia fistula*, and *Tinospora cordifolia*. These plants had the highest informant consensus factor (ICF) values, indicating that they were highly agreed upon by the traditional healers and community members for their medicinal properties.

The use value (UV) and fidelity level (FL) of the medicinal plants were also calculated. The use value (UV) provides an indication of the overall importance of the medicinal plant species, while the fidelity level (FL) provides an indication of the degree of specialization in the use of the medicinal plant species. The study found that the highest use value was observed for *Azadirachta indica*, indicating its widespread use in the study area. The highest fidelity level was observed for *Aloe vera*, indicating its specialized use for specific ailments.

The validation of traditional knowledge through a literature review confirmed the accuracy and validity of the traditional knowledge collected in the study. This is important because traditional knowledge of medicinal plants has been dismissed by some as unscientific or ineffective. However, the literature review confirmed the medicinal properties of many of the identified plant species and provided evidence to support their use in traditional medicine.

The mapping of medicinal plants revealed that the highest diversity of medicinal plants was found in areas with thorn forest and scrubland vegetation. This information can be used to guide the conservation and management of medicinal plants in the region. However, the study also revealed that many of the medicinal plant species were under threat due to habitat loss, overharvesting, and urbanization. This underscores the need for sustainable conservation and management practices for medicinal plants in the region.

The study also found that traditional knowledge of medicinal plants was more prevalent among the older members of the community. This is a cause for concern, as the younger generations were found to have less knowledge of medicinal plants. This could be attributed to the increasing availability of modern healthcare facilities in the area. The promotion of traditional healthcare practices and the conservation and sustainable use of medicinal plants can help to preserve this important cultural heritage.

Finally, the study highlights the importance of preserving traditional knowledge and the value of medicinal plants in the healthcare system of local communities. The study provides a foundation for future research and conservation efforts in the study area and can serve as a model for other similar studies in the region. The results of the study can be used to promote the conservation and sustainable use of medicinal plants in the study area and to inform the development of sustainable conservation and management practices for medicinal plants in the region.

CONCLUSION:

The study provides a comprehensive understanding of the traditional knowledge and use of medicinal plants in the study area. The results of the study can be used to inform the development of sustainable conservation and management practices for medicinal plants in the region.

The study highlights the importance of traditional medicine and the role of medicinal plants in the healthcare system of the local community. The study also reveals the need for the conservation and sustainable use of medicinal plants in the face of habitat loss and urbanization.

The results of the study can be used to promote the conservation and sustainable use of medicinal plants in the study area. This can be achieved through the development of awareness programs and the promotion of traditional healthcare practices. The study also highlights the need for further research on the medicinal properties of the identified plant species to validate their efficacy and safety.

Overall, the study underscores the importance of preserving traditional knowledge and the value of medicinal plants in the healthcare system of local communities. It provides a foundation for future research and conservation efforts in the study area and can serve as a model for other similar studies in the region.

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