

**ETHNOBOTANICAL SURVEY OF MEDICINAL FLORA IN UTNOOR FOREST,
TELANGANA: IMPLICATIONS FOR CONSERVATION AND HEALTHCARE**

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Abstract:

The ethnobotanical survey conducted in the Utnoor Forest Adilabad, Telangana, aimed to document the traditional medicinal flora used by local communities, assess its implications for conservation, and explore its potential contributions to healthcare practices. Through field surveys data on medicinal plants, their traditional uses, and associated indigenous knowledge were collected. A diverse range of medicinal flora comprising herbs, shrubs, and trees was identified, with local communities employing them to treat various ailments and health conditions. The survey revealed the significance of traditional medicinal knowledge passed down through generations and its role in community healthcare practices. Moreover, the study underscores the importance of conserving the rich biodiversity of the Utnoor Forest Adilabad, as many medicinal plant species are integral to local healthcare traditions. The findings of this survey provide valuable insights for biodiversity conservation efforts and healthcare initiatives in the region. Incorporating traditional medicinal knowledge into conservation strategies and healthcare systems can promote sustainable resource management, support local livelihoods, and enhance healthcare accessibility and affordability. This research contributes to the growing body of ethnobotanical knowledge and highlights the importance of integrating traditional wisdom with contemporary conservation and healthcare practices.

Keywords: Ethnobotanical Survey, Utnoor Forest Adilabad, Medicinal Flora.

I. INTRODUCTION

The Utnoor Forest Adilabad, located in the state of Telangana, India, is a significant natural reserve known for its rich biodiversity and unique ecosystems. Established in 1965, it spans an area of approximately 893 square kilometres, making it one of the largest sanctuaries in the region. Utnoor Forest Adilabad is characterized by diverse vegetation, including tropical dry deciduous forests,

grasslands, and mixed forests. The sanctuary is home to a variety of flora and fauna, including several endangered and endemic species. The sanctuary serves as a vital habitat for numerous wildlife species, such as tigers, leopards, sloth bears, Indian bison (gaur), spotted deer, sambar deer, and various bird species. Its diverse ecosystems support a delicate balance of ecological processes and provide valuable resources for local communities living in and around the sanctuary. In addition to its ecological significance, Utnoor Forest Adilabad holds cultural and historical importance. It is recognized as a protected area under Indian wildlife laws and serves as a key site for biodiversity conservation efforts in the region. Given its ecological, cultural, and historical value, the Utnoor Forest Adilabad presents an ideal setting for conducting ethnobotanical studies to document traditional medicinal flora and explore their implications for conservation and healthcare. Understanding the medicinal plants used by local communities can contribute to the sustainable management of natural resources and the preservation of indigenous knowledge systems.

Ethnobotanical studies hold significant importance in both conservation and healthcare, playing a pivotal role in preserving traditional knowledge and promoting sustainable practices. In conservation, ethnobotanical studies serve as invaluable tools for documenting the traditional uses of plants by indigenous and local communities. These studies help identify plant species of medicinal, cultural, and economic importance, shedding light on their distribution, abundance, and ecological roles. By understanding the intricate relationships between humans and plants, ethnobotanical research contributes to the conservation of biodiversity and the protection of fragile ecosystems. Furthermore, these studies provide insights into the sustainable harvesting and management of medicinal plants, aiding in the development of conservation strategies aimed at preserving both plant species and their habitats. In healthcare, ethnobotanical studies offer insights into the medicinal properties of plants and their potential applications in modern medicine. Traditional medicine systems have long relied on the healing properties of plants for the treatment of various ailments. By documenting traditional knowledge and practices, ethnobotanical research facilitates the discovery of new medicinal compounds and the development of alternative healthcare treatments. Moreover, integrating traditional medicine into modern healthcare systems allows for a more holistic approach to healthcare delivery, providing patients with a diverse range of treatment options that draw upon both traditional and scientific knowledge. Overall, ethnobotanical studies play a vital role in bridging the gap between traditional knowledge, conservation, and healthcare. By preserving cultural heritage, promoting sustainable practices, and facilitating the integration of traditional medicine into modern healthcare systems, ethnobotanical research contributes to the well-being of both people and the planet.

II. MEDICINAL FLORA OF UTNOOR FOREST ADILABAD

A. Diversity of medicinal plants

The diversity of medicinal plants within the Utnoor Forest Adilabad, Telangana, reflects the rich ecological tapestry of this biodiverse region. Spanning across various habitats such as tropical dry deciduous forests, grasslands, and mixed forests, the sanctuary provides a conducive environment for a wide array of plant species with medicinal properties to flourish. Among the diverse flora, a multitude of herbs, shrubs, and trees are identified for their traditional medicinal uses. Indigenous communities residing in and around the sanctuary have cultivated an intimate understanding of these plants, harnessing their therapeutic potential to address various health ailments and wellness needs. From indigenous healing practices to daily healthcare routines, these medicinal plants form an integral part of the cultural heritage and traditional knowledge systems of local communities. The medicinal plants found in the Utnoor Forest Adilabad exhibit remarkable adaptability and resilience, often thriving in diverse ecological niches and climatic conditions. Their distribution across different habitats underscores the interconnectedness between biodiversity conservation and traditional healthcare practices. Moreover, the presence of endemic and rare species highlights the sanctuary's significance as a reservoir of unique plant diversity with potential implications for conservation efforts. The documentation of medicinal plant diversity serves not only to catalogue the botanical richness of the sanctuary but also to recognize the intrinsic value of traditional knowledge systems in conserving biodiversity and promoting community well-being. By understanding the ecological roles and medicinal properties of these plants, conservationists, researchers, and policymakers can work collaboratively with local communities to develop sustainable management strategies that balance conservation goals with the cultural and healthcare needs of the region. In summary, the diversity of medicinal plants in the Utnoor Forest Adilabad underscores the intricate relationship between nature and culture, highlighting the importance of preserving both biological and cultural diversity for the well-being of present and future generations. Through holistic approaches that integrate traditional wisdom with modern conservation and healthcare practices, the sanctuary can serve as a model for biodiversity conservation and sustainable development initiatives in the region.



B. Classification of medicinal flora (herbs, shrubs, trees)

The medicinal flora found within the Uttoor Forest Adilabad in Telangana can be classified into various categories based on their growth habits and botanical characteristics. This classification typically includes herbs, shrubs, and trees, each contributing to the rich diversity of medicinal plants in the region.

1. Herbs: Herbs are typically small, non-woody plants with soft stems that die down to the ground after flowering. In the sanctuary, numerous medicinal herbs can be found growing in diverse habitats, including open grasslands, forest clearings, and along stream banks. These plants often have rapid growth rates and may include species like basil (*Ocimum basilicum*), turmeric (*Curcuma longa*), and neem (*Azadirachta indica*), which are valued for their medicinal properties.

2. Shrubs: Shrubs are woody plants that are smaller in stature compared to trees and typically have multiple stems or branches arising from the base. Within the sanctuary, shrubby medicinal plants can be found in a variety of habitats, including forest understories, edges, and disturbed areas. Examples of medicinal shrubs may include amla (*Phyllanthus emblica*), brahmi (*Bacopa monnieri*), and ashwagandha (*Withaniasomnifera*), which are esteemed for their therapeutic uses.

3. Trees: Trees are large, woody plants with a single main stem or trunk and a well-defined canopy. In the Utnoor Forest Adilabad, numerous medicinal trees can be found growing in the forested areas, along with riverbanks, and in open woodlands. These trees provide important habitats for wildlife and contribute significantly to the ecosystem's overall biodiversity. Examples of medicinal trees may include neem (*Azadirachta indica*), sandalwood (*Santalum album*), and drumstick (*Moringa oleifera*), known for their medicinal and cultural significance.



The classification of medicinal flora into herbs, shrubs, and trees reflects their growth habits, ecological niches, and cultural uses. Understanding the diversity and distribution of medicinal plants within these categories is essential for conservation efforts, sustainable management practices, and the preservation of traditional knowledge systems. By recognizing the ecological and cultural value of medicinal flora, stakeholders can work collaboratively to ensure their long-term conservation and sustainable utilization for the benefit of both human communities and the natural environment.

C. Traditional uses of medicinal plants by local communities

Local communities residing in and around the Utnoor Forest Adilabad in Telangana have long relied on traditional medicinal plants for their healthcare needs. These plants, deeply rooted in indigenous knowledge systems, serve as important resources for addressing a wide range of health ailments and wellness practices. The traditional uses of medicinal plants by local communities encompass various aspects of health and healing, including:

1. Treatment of Common Ailments: Medicinal plants are used to treat a multitude of common ailments such as coughs, colds, fevers, headaches, and stomach ailments. Plants like tulsi

(*Ocimum tenuiflorum*), ginger (*Zingiber officinale*), and turmeric (*Curcuma longa*) are commonly utilized for their antimicrobial, anti-inflammatory, and analgesic properties.

2. Management of Chronic Conditions: Certain medicinal plants are employed for the management of chronic conditions such as diabetes, hypertension, arthritis, and digestive disorders. Plants like bitter melon (*Momordica charantia*), fenugreek (*Trigonella foenum-graecum*), and garlic (*Allium sativum*) are known for their potential in regulating blood sugar levels, reducing inflammation, and improving digestive health.

3. Wound Healing and Skin Care: Many medicinal plants possess properties that promote wound healing, alleviate skin conditions, and enhance overall skin health. Aloe vera (*Aloe barbadensis*), neem (*Azadirachta indica*), and calendula (*Calendula officinalis*) are often used topically to soothe burns, cuts, rashes, and other skin irritations.

4. Women's Health: Traditional medicinal plants play a significant role in women's health, addressing issues related to menstrual irregularities, reproductive health, and postpartum care. Plants like shatavari (*Asparagus racemosus*), ginger, and fenugreek are believed to support hormonal balance, relieve menstrual cramps, and promote lactation in nursing mothers.

5. Spiritual and Ritualistic Practices: In addition to their medicinal properties, many plants hold cultural and spiritual significance within local communities. Certain plants are used in rituals, ceremonies, and spiritual practices to ward off evil spirits, bless homes, and purify spaces. These practices reflect the deep-rooted connections between plants, culture, and spirituality.

Overall, the traditional uses of medicinal plants by local communities reflect a holistic approach to health and well-being, encompassing physical, emotional, and spiritual aspects of healing. By integrating traditional knowledge with modern healthcare practices, stakeholders can promote culturally sensitive healthcare initiatives, support sustainable resource management, and enhance community resilience in the face of health challenges.

III. IMPLICATIONS FOR CONSERVATION

A. Role of medicinal plants in biodiversity conservation

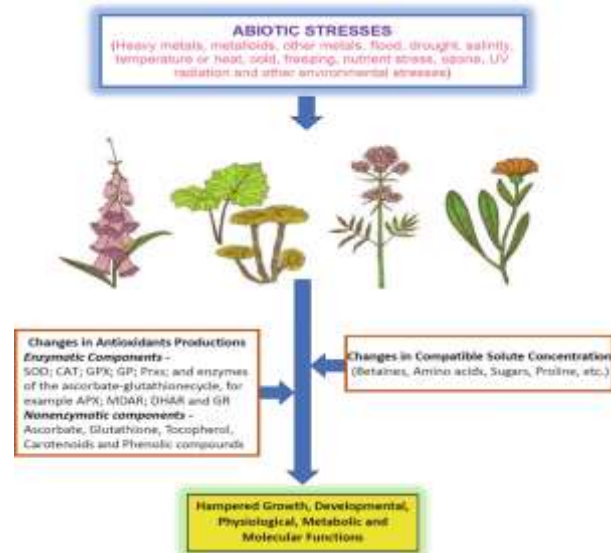
Medicinal plants play a crucial role in biodiversity conservation by serving as key components of ecosystems, supporting diverse flora and fauna, and contributing to the overall health and resilience of natural habitats. Their conservation is essential for maintaining ecological balance, preserving genetic diversity, and safeguarding ecosystem services upon which human societies depend. Firstly,

medicinal plants contribute to the structural and functional diversity of ecosystems by occupying various niches and forming intricate ecological interactions with other organisms. They provide habitat, food, and shelter for a myriad of species, including insects, birds, mammals, and microorganisms. The presence of diverse medicinal plants enhances ecosystem stability and resilience, making ecosystems more adaptable to environmental changes and disturbances. Secondly, medicinal plants serve as indicators of ecosystem health and environmental quality. Their presence or absence can reflect changes in habitat conditions, pollution levels, and land-use practices. Monitoring medicinal plant populations can provide valuable insights into broader ecosystem dynamics and help identify areas in need of conservation attention. By conserving medicinal plants and their habitats, we can protect entire ecosystems and the services they provide, such as clean air, water, and soil. Furthermore, many medicinal plants possess unique genetic traits and biochemical compounds that hold potential for pharmaceutical and biotechnological applications. Conserving these plant species ensures the preservation of valuable genetic resources for future research and innovation. Moreover, the sustainable use of medicinal plants can provide economic opportunities for local communities, promoting conservation efforts by providing incentives for sustainable land management and biodiversity stewardship. In addition to their ecological and economic importance, medicinal plants hold cultural and traditional significance for many indigenous and local communities worldwide. They are deeply embedded in cultural practices, spiritual rituals, and traditional healthcare systems, representing centuries of accumulated knowledge about the natural world. By conserving medicinal plants, we honour and respect the cultural heritage of communities whose livelihoods and identities are closely tied to the land. In conclusion, the conservation of medicinal plants is integral to broader efforts aimed at preserving biodiversity, sustaining ecosystem services, and promoting human well-being. By recognizing the multifaceted roles of medicinal plants in ecosystems and societies, we can develop holistic conservation strategies that prioritize the protection of these valuable resources for the benefit of present and future generations.

B. Threats to medicinal plant species and conservation challenges

Medicinal plant species face a multitude of threats and conservation challenges that jeopardize their survival and long-term viability. These threats stem from a combination of anthropogenic activities, environmental factors, and socio-economic dynamics, presenting complex challenges for biodiversity conservation efforts. One of the primary threats to medicinal plant species is habitat loss and degradation due to deforestation, urbanization, agricultural expansion, and infrastructure development. As natural habitats are converted for human use, medicinal plants lose critical habitat and are subjected to fragmentation, isolation, and disruption of ecological processes. Habitat loss not

only reduces the available habitat for medicinal plants but also threatens associated biodiversity and ecosystem functions. Overexploitation and unsustainable harvesting represent significant threats to medicinal plant species, driven by increasing demand for herbal medicines, cosmetics, and dietary supplements. The indiscriminate and unregulated collection of medicinal plants for commercial trade can lead to population declines, genetic erosion, and local extinctions. Moreover, the lack of sustainable harvesting practices and management measures exacerbates the vulnerability of medicinal plant populations to overharvesting and depletion. Climate change poses another formidable challenge to the conservation of medicinal plant species, altering temperature and precipitation patterns, disrupting ecological relationships, and shifting habitat suitability. Changes in climate conditions can influence the distribution, phenology, and abundance of medicinal plants, potentially reducing their range and altering their medicinal properties. Climate-induced stressors, such as extreme weather events, droughts, and wildfires, further exacerbate the vulnerability of medicinal plant populations to extinction. Invasive species and habitat fragmentation also contribute to the decline of medicinal plant populations by outcompeting native species, altering ecosystem dynamics, and disrupting plant-pollinator interactions. Invasive plants can displace native medicinal species, reducing their abundance and distribution in natural habitats. Habitat fragmentation, resulting from human activities, isolates populations, reduces gene flow, and limits the ability of medicinal plants to adapt to changing environmental conditions. Furthermore, inadequate legal protection, weak enforcement of regulations, and insufficient community involvement in conservation efforts pose additional challenges to the effective conservation of medicinal plant species. The lack of awareness, capacity, and resources for conservation initiatives further complicates efforts to address the threats facing medicinal plants. In summary, the conservation of medicinal plant species requires concerted efforts to address the multifaceted threats and challenges they face. Effective conservation strategies must incorporate habitat protection, sustainable harvesting practices, climate adaptation measures, invasive species management, and community-based approaches to ensure the long-term viability of medicinal plant populations and the preservation of their cultural, ecological, and economic value.



C. Conservation strategies and recommendations

Conserving medicinal plant species requires a comprehensive and multi-faceted approach that addresses the complex challenges facing these valuable resources. Prioritize the protection of natural habitats and critical ecosystems where medicinal plant species occur. Establish and expand protected areas, nature reserves, and wildlife sanctuaries to safeguard key habitats from habitat loss, degradation, and fragmentation. Implement habitat restoration initiatives to enhance the resilience of ecosystems and promote the recovery of degraded habitats. Develop and enforce sustainable harvesting guidelines and regulations for the collection and trade of medicinal plants. Promote sustainable harvesting practices that ensure the long-term viability of medicinal plant populations, including selective harvesting, rotation of harvesting sites, and monitoring of population dynamics. Encourage certification schemes and eco-labelling initiatives to incentivize sustainable harvesting practices among harvesters and traders. Foster collaboration and partnership with local communities, indigenous peoples, and traditional healers in the conservation and sustainable management of medicinal plants. Recognize and respect indigenous knowledge systems, traditional practices, and cultural values associated with medicinal plants. Involve local communities in decision-making processes, capacity-building initiatives, and income-generating activities that promote sustainable livelihoods and biodiversity stewardship. Conduct scientific research and monitoring programs to assess the status, distribution, and abundance of medicinal plant species. Identify priority species for conservation based on their ecological importance, cultural significance, and conservation status. Utilize traditional ecological knowledge, participatory mapping, and citizen science approaches to gather data on medicinal plant populations and their habitats. Raise awareness and promote education about the importance of medicinal plants, biodiversity conservation, and sustainable use practices

among stakeholders, policymakers, and the general public. Develop outreach programs, educational materials, and training workshops to increase understanding of the ecological, cultural, and economic value of medicinal plants and the threats they face. Advocate for the development and implementation of policies, laws, and regulations that support the conservation and sustainable management of medicinal plants. Strengthen legal frameworks, protected area management plans, and international agreements to enhance the protection of medicinal plant species and their habitats. Ensure effective enforcement mechanisms, transparent governance structures, and equitable benefit-sharing arrangements to promote social justice and biodiversity conservation. Foster collaboration and knowledge exchange among government agencies, non-governmental organizations, research institutions, and local communities to address shared conservation challenges and opportunities. Facilitate cross-sectoral partnerships, collaborative research projects, and networking platforms to leverage resources, expertise, and best practices for effective conservation action. By implementing these conservation strategies and recommendations in a coordinated and integrated manner, stakeholders can enhance the resilience of medicinal plant populations, conserve biodiversity, and promote sustainable development for the benefit of present and future generations.

IV. METHODOLOGY

A. Selection of study area

The selection of a study area for ethnobotanical research is a critical step that requires careful consideration of various factors to ensure the relevance and effectiveness of the study. One key consideration is the biodiversity and medicinal plant diversity of the chosen area. Researchers typically seek regions known for their rich array of plant species, including forests, grasslands, wetlands, and riparian areas, as these habitats are likely to support a diverse range of medicinal flora. Such areas provide ample opportunities to document traditional knowledge and practices related to medicinal plants. Additionally, the cultural and socioeconomic context of the study area plays a significant role in its selection. It is essential to choose regions where indigenous and local communities have a deep connection to nature and rely on traditional medicinal practices. These communities often possess valuable knowledge about the uses of medicinal plants, making their involvement crucial for the success of the research. Understanding the cultural significance of medicinal plants within local communities helps ensure respectful and ethical engagement throughout the study process.

Common Name	Scientific Name	Family	Part used	Medicinal Uses
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Gundumani	<i>Abrus precatorius</i> L	Fabaceae	Seeds, roots, leaves	nervous system and diuretic
Atibala	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Root, leaves	s dysuria, inflammation, and respiratory issues
Kher or Khair	<i>Acacia catechu</i> (L.f.) Willd	Fabaceae	Heartwood	astringent and anti-diarrheal properties
Kuppi	<i>Acalypha indica</i> L	Euphorbiaceae	Whole plant, especially leaves	coughs and bronchitis
Uttareni	<i>Achyranthes aspera</i> L	Amaranthaceae	Whole plant, especially leaves and roots	Rheumatism, wound healing
Adusoge	<i>Adhatodavasi ca</i> Nees	Acanthaceae	Leaves	cough, bronchitis, and asthma
Bael	<i>Aegle marmelos</i> L	Rutaceae	leaves, fruits, roots, and bark	digestive issues, respiratory conditions, antidiabetic effects
Gorintaaku	<i>Aerva lanata</i>	Amaranthaceae	leaves and roots	urinary system, kidney disorders
Ittimullu	<i>Aerva lanata</i>	Amaranthaceae	roots and leaves	urinary disorders and kidney-related issues.
Aralu	<i>Ailanthus excelsa</i> Roxb	Simaroubaceae	Bark, leaves	fever
Ankol	<i>Alangiumsalvifolium</i>	Alangiaceae	Bark, leaves, roots, fruits	fever
Siris	<i>Albizia lebbeck</i>	Mimosaceae	Bark, leaves, seeds	diarrhoea
Nayagullu	<i>Ampelocissus latifolia</i>	Vitaceae	Leaves, stems, roots	respiratory issues
Nelavemu	<i>Andrographis paniculata</i>	Acanthaceae	leaves and stems	cold
Nallatumma	<i>Anogeissus latifolia</i>	Combretaceae	Bark	wounds and skin ailments

Pitelli	Argemone mexicana L	Papaveraceae	leaves, seeds, and latex	respiratory ailments
BhooAmlav etasi	Aristolochia b racteolata Lam	Aristolochiaceae	Whole plant	digestion
Shatavari	Asparagus racemosus Willd	Asparagaceae	root	hormonal levels, regulate menstrual cycles, and alleviate symptoms of menopause
Neem	Azadirachta indica Juss	Meliaceae	leaves, bark, seeds	oral hygiene, reduce gum inflammation, and prevent dental issues
Hingot	Balanites aegyptiaca	Zygophyllaceae	fruit, seeds, bark, and leaves	skincare, haircare

V. IMPLICATIONS FOR HEALTHCARE

A. Integration of traditional medicinal knowledge into healthcare practices

The integration of traditional medicinal knowledge into modern healthcare practices represents a significant step towards fostering a more holistic and culturally sensitive approach to healthcare delivery. This integration is rooted in the recognition of the value and effectiveness of traditional healing systems that have been practiced by diverse cultures for centuries. By incorporating traditional medicinal knowledge into healthcare practices, societies can benefit from a broader range of treatment options and a deeper understanding of health and wellness. One key aspect of integrating traditional medicinal knowledge into healthcare practices involves acknowledging the rich heritage and cultural significance of traditional healing practices. Traditional medicine has been an integral part of many cultures worldwide, offering holistic approaches to health that encompass physical, mental, and spiritual well-being. Recognizing the importance of traditional healing systems is essential for promoting cultural diversity, preserving indigenous knowledge, and fostering respect for diverse healthcare traditions. Another crucial component of integration is the documentation and validation of traditional medicinal knowledge. Through systematic research and documentation, traditional healing practices and remedies can be studied, analysed, and validated for their safety, efficacy, and therapeutic properties. This process involves collaboration between traditional healers, researchers, and healthcare practitioners to identify effective treatments, understand their mechanisms of action, and develop evidence-based guidelines for their use in clinical practice.

Education and training play a vital role in facilitating the integration of traditional medicinal knowledge into modern healthcare systems. Healthcare professionals need to receive education and training on traditional healing practices, cultural competence, and respectful communication with patients from diverse cultural backgrounds. Training programs can help healthcare providers develop the skills and knowledge necessary to integrate traditional healing modalities into their clinical practice while respecting patient preferences and beliefs. Collaborative care models promote partnerships and collaboration between traditional healers and modern healthcare providers, fostering mutual respect, trust, and cooperation among practitioners. These models emphasize shared decision-making, interdisciplinary communication, and patient-centred care, enabling healthcare providers to work together to address the holistic health needs of patients. By combining the strengths of traditional and modern medicine, collaborative care models offer patients a comprehensive approach to health and wellness that integrates the best of both worlds. The integration of traditional medicinal knowledge into healthcare practices represents a transformative shift towards more inclusive, culturally sensitive, and patient-centred healthcare delivery. By recognizing the value of traditional healing systems, documenting traditional medicinal knowledge, promoting education and training, and fostering collaboration among healthcare providers, societies can harness the full potential of traditional medicine to improve health outcomes, promote wellness, and preserve cultural heritage for generations to come.

B. Importance of preserving indigenous healthcare traditions

Preserving indigenous healthcare traditions is of paramount importance for maintaining cultural identity, promoting holistic health practices, and ensuring the well-being of indigenous communities worldwide. These traditions, deeply rooted in cultural heritage and ancestral wisdom, represent invaluable reservoirs of knowledge about the natural world, healing practices, and community well-being. Firstly, indigenous healthcare traditions are integral components of cultural identity and collective memory for indigenous communities. They embody centuries-old knowledge, passed down through generations, that reflects a deep understanding of the interconnectedness between humans, nature, and the spiritual realm. Preserving these traditions helps to safeguard cultural heritage, strengthen community bonds, and promote a sense of belonging and continuity among indigenous peoples.

Moreover, indigenous healthcare traditions offer holistic approaches to health and wellness that encompass physical, mental, emotional, and spiritual dimensions of well-being. These traditions emphasize the importance of balance, harmony, and interconnectedness in promoting health and

preventing disease. By integrating elements of traditional healing, herbal medicine, spiritual rituals, and community support, indigenous healthcare practices address the root causes of illness and promote resilience and vitality among individuals and communities. Preserving indigenous healthcare traditions is also crucial for addressing health disparities and promoting health equity among indigenous populations. Indigenous communities often face significant barriers to accessing mainstream healthcare services, including geographic isolation, cultural and linguistic barriers, and systemic discrimination. By revitalizing and supporting indigenous healthcare systems, communities can assert greater control over their health destinies, address healthcare inequities, and promote culturally responsive and accessible healthcare services. Furthermore, indigenous healthcare traditions offer valuable insights and solutions to contemporary health challenges, including chronic diseases, mental health disorders, and environmental health threats. Traditional healing practices, herbal remedies, and community-based interventions can complement modern healthcare approaches, offering alternative solutions to complex health issues and promoting holistic approaches to wellness. The preservation of indigenous healthcare traditions is essential for safeguarding cultural identity, promoting holistic health practices, and addressing health disparities among indigenous communities. By recognizing the value of indigenous knowledge systems, supporting cultural revitalization efforts, and fostering partnerships between indigenous healers and modern healthcare providers, societies can promote the health and well-being of indigenous peoples while honouring their rich cultural heritage and ancestral wisdom.

C. Potential contributions to modern healthcare systems

Indigenous healthcare systems harbour a wealth of knowledge and practices that hold the potential to enrich modern healthcare systems in several significant ways. Firstly, these traditions often emphasize holistic approaches to health and wellness, viewing individuals as integrated beings encompassing physical, mental, emotional, and spiritual dimensions. By integrating elements of traditional healing, herbal medicine, spiritual rituals, and community support, indigenous healthcare practices offer comprehensive models of care that address the root causes of illness and promote resilience among individuals and communities. Secondly, indigenous healthcare traditions bring forth valuable insights into preventive and lifestyle medicine. Many traditional healing practices prioritize maintaining balance, harmony, and connection with nature, which can serve as effective strategies for preventing chronic diseases and lifestyle-related illnesses. By promoting healthy lifestyle behaviours, dietary habits, and self-care practices rooted in indigenous wisdom, modern healthcare systems can empower individuals to take proactive measures in managing their health and preventing illness. Additionally, traditional herbal medicine and remedies represent an integral aspect of

indigenous healthcare systems. Indigenous cultures have a rich tradition of using medicinal plants for healing purposes, many of which contain bioactive compounds with therapeutic properties. By incorporating traditional herbal medicine into modern pharmacology and drug development, researchers can explore new avenues for drug discovery, develop evidence-based treatment protocols, and enhance the efficacy and safety of pharmaceutical interventions.

Moreover, indigenous healthcare traditions often emphasize community-based approaches to healthcare delivery, fostering collaboration, collective decision-making, and shared responsibility for health outcomes. Community health workers and traditional healers play pivotal roles in bridging the gap between formal healthcare systems and marginalized populations, improving access to care, and addressing health disparities. By embracing community health models and participatory approaches, modern healthcare systems can engage with local communities, build trust, and address social determinants of health more effectively.

VI. CONCLUSION

In conclusion, the ethnobotanical survey conducted in the Utnoor Forest Adilabad, Telangana, offers valuable insights into the rich medicinal flora and traditional knowledge systems of the region. Through comprehensive field studies and interactions with local communities, this research has documented a diverse array of medicinal plant species and their traditional uses, highlighting their significance for conservation and healthcare practices. The identification of medicinal plant species and their therapeutic properties lays the groundwork for sustainable resource management and ecosystem preservation within the sanctuary. The documented medicinal plants offer potential alternatives to conventional medicine, providing accessible and culturally relevant healthcare solutions for local communities. Integrating traditional medicine with modern healthcare systems could enhance healthcare accessibility, promote biodiversity conservation, and foster community resilience.

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