



Folk Medicinal Practices and Plant-Based Remedies: A Comprehensive Review

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ABSTRACT

Using medicinal plants extensively to prevent and treat a variety of human problems, folk medicine is one of the oldest types of healthcare. Through oral traditions, indigenous and rural groups have retained important ethnobotanical knowledge for millennia, greatly advancing primary healthcare and the identification of bioactive substances for contemporary medicine. With an emphasis on the variety of medicinal plant species, traditional preparation and administration techniques, ethnopharmacological significance, and their scientific validation through phytochemical and pharmacological studies, this thorough review summarizes the most recent research on traditional medicine and plant-based remedies. The paper also emphasizes how medicinal plants can be used to treat chronic ailments such as inflammatory problems, metabolic abnormalities, and infectious infections. It also covers the significance of recording indigenous knowledge, protecting the biodiversity of medicinal plants, and encouraging the sustainable use of plant resources in the face of climate change, habitat loss, and fast urbanization. Additionally, the review identifies future research prospects for integrating ethnobotanical knowledge with contemporary healthcare systems while examining the difficulties related to standardization, quality control, safety, and clinical validation of traditional herbal medications. Overall, this review highlights the ongoing value of folk medicinal practices as a source of therapeutic agents, cultural heritage, and sustainable healthcare solutions. It also emphasizes the necessity of interdisciplinary research, evidence-based validation, and conservation strategies to guarantee their long-term use and preservation.

KEYWORDS

Indigenous healthcare, ethnobotany, folk medicine, medicinal plants, traditional knowledge, herbal remedies, ethnomedicine, phytochemicals, pharmacological validation, and biodiversity protection.

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1. Introduction

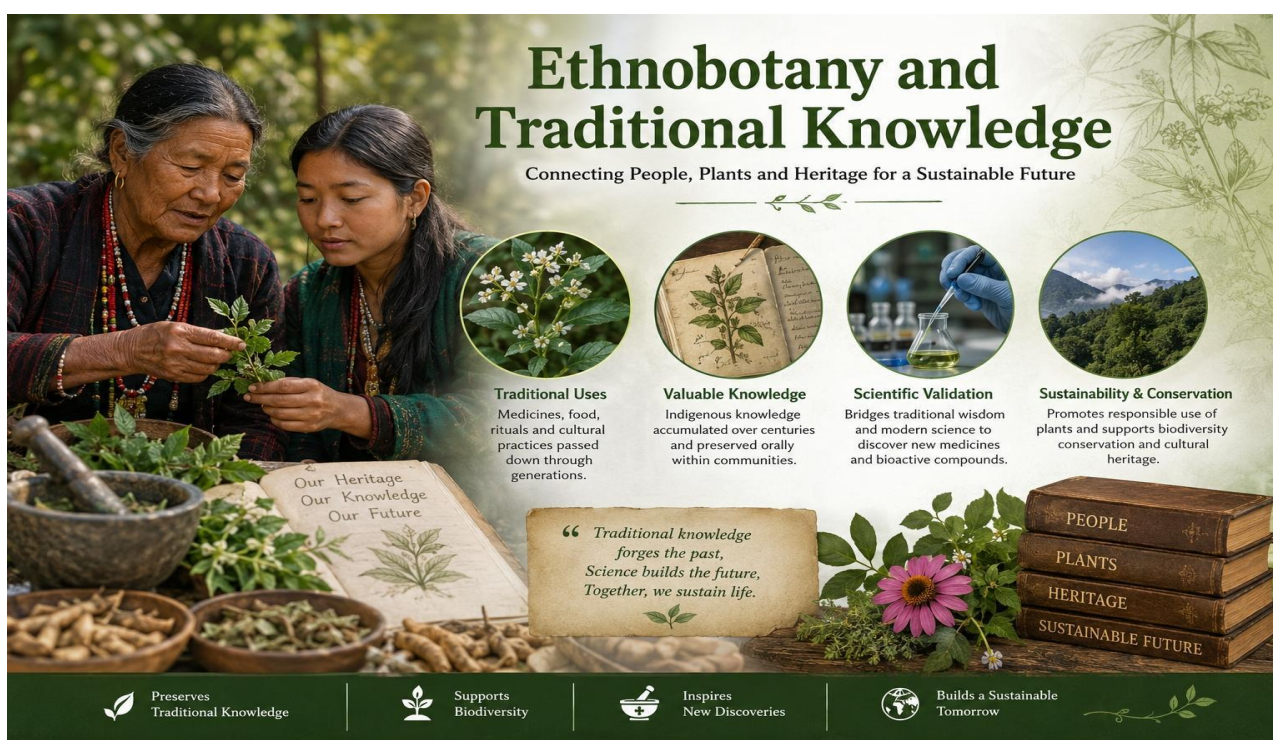
1. An Overview of Folk Medicine

Folk medicine, which uses natural resources, especially medicinal plants, to prevent and treat illnesses, is one of the oldest healthcare systems in human history (Jain, 1991; Schultes & Reis, 1995). Folk medicine has its roots in the thousands of years that early human civilizations used practical experiences and natural observations to determine which plants had medicinal qualities (Cotton, 1996). Over time, this knowledge was transmitted orally across generations, becoming an integral part of the cultural heritage of indigenous and rural communities (Kala, 2005). Across Asia, Africa, Europe, and Latin America, folk medicine has remained an essential component of primary healthcare because of its accessibility, affordability, and cultural acceptance (WHO, 2013). Indigenous communities continue to use medicinal plants for the treatment of common ailments such as fever, cough, gastrointestinal disorders, skin diseases, respiratory infections, diabetes, and inflammatory conditions (Fabricant & Farnsworth, 2001; Rupani & Chavez, 2018)



2. Traditional Knowledge and Ethnobotany

The scientific study of human interactions with plants, with a focus on their traditional usage in food, medicine, rituals, and cultural practices, is known as ethnobotany (Martin, 1995; Jain, 1991). Botany, anthropology, pharmacology, ecology, and conservation biology are all connected by this significant interdisciplinary topic (Schultes & Reis, 1995). Indigenous medical knowledge, which has been gathered over generations and is frequently passed down orally within communities, is largely documented through ethnobotanical study (Cotton, 1996). This knowledge must be preserved since it not only protects cultural heritage but also aids in the protection of biodiversity and the development of novel medicinal substances (Fabricant & Farnsworth, 2001). Additionally, ethnobotanical research encourages sustainable use of medicinal plant resources while facilitating the scientific confirmation of traditional medicines (Kala, 2005; Heinrich et al., 2018).



3. Medicinal Plants' Significance in Primary Healthcare

For millions of people worldwide, medicinal plants continue to be their major source of healthcare, especially in poor nations with limited access to contemporary medical facilities (WHO, 2013). The World Health Organization estimates that traditional medicine provides primary healthcare for about 80% of the population in many underdeveloped countries (WHO, 2013). Because they are easily accessible, reasonably priced, culturally acceptable, and frequently have fewer side effects than synthetic medications, medicinal plants are utilized extensively (Farnsworth et al., 1985).

Herbal formulations including decoctions, infusions, powders, pastes, oils, and extracts are made from a variety of plant parts, including leaves, roots, bark, flowers, fruits, seeds, rhizomes, and latex (Balick & Cox, 1996; Nadkarni, 2002). Infectious diseases, metabolic disorders, cardiovascular diseases, digestive disorders, skin infections, and respiratory illnesses are all treated with these therapies (Kala, 2005; Rupani & Chavez, 2018).

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5. Preservation of Medicinal Plants and Ethnomedicinal Knowledge

Rapid urbanization, deforestation, habitat degradation, climate change, overharvesting, and the deterioration of traditional knowledge systems pose several challenges to ethnomedicinal knowledge and

medicinal plant resources, despite their enormous significance (Kala, 2005; Das et al., 2022). The transmission of indigenous knowledge is gradually declining as younger generations become more reliant on contemporary healthcare (Rao, 1996). Due to habitat degradation and unethical collection, several species of medicinal plants are in danger of going extinct (Kala et al., 2006). Thus, maintaining this priceless biological and cultural legacy requires comprehensive documenting of ethnomedical knowledge, conservation of medicinal plant biodiversity, sustainable harvesting methods, cultivation initiatives, and community involvement (Sofowora, 2008; WHO, 2023).

6. The review's goals and scope

By combining the existing ethnobotanical, phytochemical, pharmacological, and clinical information from published literature, the current review seeks to give a thorough overview of traditional medical practices and plant-based therapies. The variety of medicinal plants, conventional preparation techniques, therapeutic purposes, scientific validation, and the function of medicinal plants in primary healthcare are all highlighted (Fabricant & Farnsworth, 2001; Heinrich et al., 2018). The preservation of ethnomedical knowledge, the sustainable use of medicinal plant resources, and the difficulties brought on by environmental modernization and degradation are also covered in the review (Kala, 2005; WHO, 2023). In order to further interdisciplinary research, evidence-based herbal therapy, biodiversity protection, and the fusion of traditional knowledge with contemporary healthcare systems, it also highlights present research gaps and future directions (Newman & Cragg, 2020; Raj & Ayyanar, 2024).



Conclusion

Healthcare Because they offer accessible, reasonably priced, and culturally acceptable therapeutic choices, folk medicine and plant-based cures continue to play a significant part in worldwide healthcare. The identification of many therapeutic plants with established pharmacological qualities has been greatly aided by traditional knowledge that has been conserved by rural and indigenous groups. This knowledge continues to be a vital resource for contemporary drug research. By confirming the phytochemical composition, biological activity, and medicinal potential of many traditional treatments, ethnobotanical research has reinforced their scientific foundation.

Despite their enormous significance, habitat degradation, overexploitation, urbanization, climate change, and the slow loss of traditional knowledge are all posing a growing threat to medicinal plants and indigenous knowledge systems. Thus, to ensure their long-term viability, rigorous documenting, scientific confirmation, conservation of medicinal plant diversity, and safeguarding of indigenous intellectual

legacy are crucial. In addition to promoting biodiversity preservation and sustainable healthcare, combining traditional medical knowledge with contemporary scientific research can aid in the creation of safe, efficient, and evidence-based herbal medications.

Advanced phytochemical analyses, pharmacological assessment, toxicological investigations, clinical trials, quality control, and sustainable medicinal plant production should be the main areas of future research. To preserve traditional knowledge and encourage its proper application, cooperation between ethnobotanists, pharmacologists, conservation biologists, medical professionals, legislators, and local populations will be essential. All things considered, traditional healing methods and plant-based treatments serve as an important link between traditional medicine and modern medicine, presenting encouraging prospects for enhancing world health and attaining sustainability in the future.

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