



The Impact of Urbanization on Traditional Medicinal Plant Use in Disease Management

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ABSTRACT

Urbanization has transformed the relationship between humans and their environments, leading to significant shifts in traditional medicinal plant use. Traditional medicine, a cornerstone of cultural health practices, is increasingly threatened by the demographic transition from rural to urban areas. This paper examines how urbanization affects the use of medicinal plants, the preservation of ethnopharmacological knowledge, and the integration of traditional and modern healthcare systems. It examines challenges such as habitat destruction, cultural dilution, and access barriers while highlighting the role of urban herbalists and the commercialization of traditional remedies. Through case studies, this paper illustrates both the erosion and resilience of traditional medicinal knowledge in urbanized settings. Finally, it outlines strategies for sustainable integration of traditional medicinal plant use into urban health systems, emphasizing conservation, community engagement, and policy advocacy.

Keywords: Urbanization, Traditional medicinal plants, Ethnopharmacology, Healthcare integration, Cultural preservation, Sustainability.

INTRODUCTION

Urbanization has been associated with significant alterations in human-environment dynamics and local and traditional ecological knowledge. Traditional medicine, which includes traditional medicinal plants, is part of local cultural practices and is used as an alternative to animal drugs predominantly in developing countries. The protection of traditional knowledge is receiving increasing attention globally. Sustainable healthcare is a crucial attribute of Indigenous life. Due to the acceleration in development efforts, traditional medicine has been of increasing interest from ethnopharmacological and conservation perspectives. The importance of plants as tools in cultural health practices is significant and needs to be understood, especially with the demographic transition from rural and forest systems to urban settlements in developing countries. This has led to concern over the loss of ethnopharmacological knowledge, particularly relating to the substitution of cultures and health practices through modern beliefs [1, 2]. The unanswered question is whether modern scientific healthcare benefits urban communities and whether the practices therein can be integrative with traditional healthcare for the rapid resolution of health outcomes in urban settings. Several questions arise with the transition from forest and rural ecosystems to urban systems: Do urban dwellers continue with their traditional use of medicinal plants given their easy access to modern drugs? What ethnomedicines do urban non-market dealers provide, and which services do informal health practitioners offer that are specific only to urban environments? What could be the fate of local healthcare services and traditional knowledge amidst rapid urbanization, especially where the demographics of consumers from the countryside are hastened and worsened by diseases associated with poverty? This paper seeks to provide insight into the still sustained practices under urbanization, creating a link between ethnobotanical, primary healthcare, and public health [3, 4].

Traditional Medicinal Plants: Importance and Use in Disease Management

Plants have always been a natural source of drugs for common ailments and diseases, and are considered the basis of traditional medicines for their historical and cultural background. Medicinal plants are also used to manage chronic diseases and primary health care in remote, rural, urban, and metro-urban

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communities. A range of medicinal plants are being used in the global system, especially Neem, Ginkgo biloba, Curcuma longa, Vernonia amygdalina, Aloe vera, Himalaya, China Sisal leaf, St. John's wort, etc. It has been estimated that the sale of medicinal plants is still at high rates, i.e., about \$2000–4000 billion in developing countries. Several therapeutic agents have been discovered from natural sources which account for nearly 50% of the global market [5, 6]. Nutrition contained within traditional medicine is referred to as “magical food.” Scientifically, the composition has been proven to be a source of energy, lipids, proteins, vitamins, minerals, amino acids, carbohydrates, organic acids, pigments, fibers, iron, volatile oils, flavonoids, alkaloids, triterpenoids, saponins, formic oil, tannins, steroids, and ursolic acid/cholesterol. Modern drugs are being developed from organic compounds, pharmacologically active ingredients, and similar structures to traditional medicines. The use of plant knowledge for healthcare management has long been established by indigenous folk, and they possess traditional knowledge for the management of remedies. The use of these traditional medicines is influenced by culture and society, as ethnic tribes and races possess compiled knowledge of these traditional systems and practices. About 80% of the global population relies on herbal medicines for a healthy and prosperous life. These alternative therapeutics are used for a wide range of healthcare issues, such as anxiety, nervousness, menstruation, body pain, rheumatism, uterine contraction, fever, infection, water retention, and the healing of wounds [7, 8].

Urbanization and Its Effects on Traditional Medicinal Plant Use

Urbanization is the rapid expansion of towns and cities, which leads to habitat destruction. Destruction of natural habitats may affect the availability of medicinal plants. The transition from rural areas into urban centers and occupational changes can result in the erosion of traditional knowledge. The more people inhabiting a given area, the more likely they are to rely on modern pharmaceuticals over traditional herbal remedies. This shift in the use of medicine can result in a decline in traditional medicinal health practices. Socio-cultural change has also contributed to the erosion of the belief in traditional medicinal health practices. Changes in ecosystems have led to changes in people's perceptions of their states of health and health in general. Increasingly, health is seen as an area of life where dominant values are to be applied, values of control, cleanliness, and certainty. This values shift has resulted in a tendency within some urban societies to rely more on clinical health practices over traditional and spiritual health practices. Urbanization presents barriers to urban dwellers, such as these, in accessing traditional health remedies, with such barriers being both economic and spatial. Urban residents also have problems accessing traditional health remedies due to the role of herbalists, whom neither the government nor the municipality appears to want to support and promote [9, 10]. The process of urbanization changes the relationship that humans have with medicinal plants. Urban residents still employ traditional knowledge, when available, for their health care requirements, but this practice stems from door-to-door procurement networks and not from their knowledge about naturally occurring species. However, urbanization presents other opportunities for an increase in the use of traditional knowledge. For one, most herbalists, who are increasingly better educated and are themselves urbanites, say they see an increase in the number of urban people seeking health remedies from them. Some herbalists in the area have already started packaging and labeling their remedies, especially tonics derived from various roots, and now have numbers on the containers, denoting their prices and ingredients. Finally, the rise in popularity of indigenous religions and cultures in urban areas is also creating new spaces in which traditional remedies are being used [11, 12].

Case Studies of Urbanization Impact on Traditional Medicinal Plant Use

Urbanization drives society into problems where utilization and socio-economic factors become threats to the existing relationship between human beings and the environment. This situation forces society to resolve the conflicts between various economic opportunities arising from urbanization. Case studies indicate that those who are successful have often attempted to illustrate that traditional medicine is valuable to both local and international communities, placing value on the plants themselves [13, 14]. In the Gijduvon district of Bukhara Province, a survey of local plant species demonstrated that there was no significant change in the general practice of retaining knowledge about plant properties and usages among the local population. Almost 90% of usages are medicinal. Similar data were collected from a lowveld agro-tourism locality in Limpopo Province. In contrast, two other case study locations outside of the urban limelight indicate that pressure from urbanization has led to the accelerated depletion of mainstream knowledge. Tribute to some traditional medical practitioners from the Warangal District for their technical knowledge was reported. In contrast, traditional knowledge systems in relatively isolated hill and mountain areas in Limpopo Province are reported to be rare as a result of cultural and medicinal

belief dilution by the urban cultures they have interfaced with for almost a hundred years. There are exceptions, however, such as the Nyondos of the Magoebaskloof region who still preserve traditional knowledge and skills, albeit in a greatly diminished fashion. Even in the urban setting of the Cape Provinces, there are traditional plant use adherents who have particularly worked hard at preserving what is left of their accumulated knowledge. Overall, losing cultural plants is akin to removing or diluting one's cultural identity [15, 16].

Strategies for Sustainable Use and Conservation of Traditional Medicinal Plants in Urban Areas

It is important to merge traditional medicinal plant knowledge and the urban official health systems to cover the health needs of long-term citizens in ever-growing urban environments across the globe. When not covered with health information and access, people may continue to utilize their local medicinal plants. Thus, it is vital to focus our attention on how these plants are used and the risks associated with their utilization. Therefore, researchers in various fields, including ethology, ethnopharmacology, ecology, public health, spatial planning, and human geography, along with the sector of herbal industries, traditional healers, and health systems, should engage in mutual dialogues to discuss these vital issues and propose the best innovative and cross-disciplinary practices to harmonize urban development and traditional accumulated knowledge. In the meantime, local farmers, societies, NGOs, and policymakers have realized the need to conserve these plants. Therefore, in general, some strategies can be feasible to support the sustainable use and treatment of traditional medicinal plants in urban areas: integration between local medicinal knowledge and state health systems in urban areas is a must; community engagement and education about the use of medicinal plants in dealing with human health issues might facilitate their practical relevance and prevent personal injuries; policymakers should advocate for the legal protection of these plants and support local knowledge systems; sustainable management plans, including the cultivation of sites for wild medicinal plants, can be feasible to follow in urban areas; collaborate with ecologists, ethnobotanists, and urban planning researchers to come up with innovative strategies to reduce urban ecological impacts; and establish urban green areas that can mimic natural conditions that harbor local varieties of various organisms, including wild medicinal plants [17, 18].

CONCLUSION

The rapid pace of urbanization poses both challenges and opportunities for the use of traditional medicinal plants in disease management. While urbanization often leads to the erosion of traditional knowledge, it also presents opportunities for its reinvention and integration into modern healthcare systems. By fostering collaborations among ethnobotanists, healthcare providers, policymakers, and urban planners, sustainable strategies can be developed to preserve traditional medicinal practices. These strategies should include the cultivation of medicinal plants in urban green spaces, community education, and legal frameworks to protect indigenous knowledge. Ultimately, the coexistence of traditional and modern healthcare systems can enhance health outcomes, cultural preservation, and biodiversity in urban environments.

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