The Research of Medical Science Review
ISSN: 3007-1208 & 3007-1216 Volume 3, Issue 1, 2025

HISTORICAL PERSPECTIVES ON MEDICINAL PLANTS: EVOLUTION AND CULTURAL SIGNIFICANCE

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DOI: https://doi.org/10.5281/zenodo.20697856

Keywords
ancient cultures, herbal remedies, medicinal plants, traditional medicine

Article History
Received: 06 December 2024
Accepted: 16 January 2025
Published: 31 January 2025

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Abstract
The usage of medicinal plants dates back to ancient times and is deeply rooted in human history. Over the past millennia, plants have been used by different cultures across the world in their treatment of illnesses and in the process of upholding their health. Ethnobotany and ethnopharmacology have become important sources of information in the quest to discover new drugs. The paper will give a background of the history of using medicinal plants, the evolution of traditional medicine, the history of herbal knowledge, and the cultural, social, and economic aspects that have shaped the use of medicinal plants by various civilizations. This historical context is important to understand the importance of traditional medicine and its role in present-day healthcare.

Introduction

Plant-based medicine is an inflexibly old tradition of human history that has no cultural, geographical, or temporal boundaries (Farid, 2025; Micozzi, 2010). Medicinal plants were used as a main source of a cure for a variety of health conditions long before the invention of modern medicine (Stapley, 2023). The historical context of medicinal plants' usage offers valuable insights into the foundations of traditional medicine and its role in shaping healthcare practices worldwide (Oakeley, 2024; Kindersley, 2023). The societies of early humanity had to use the principles of trial and error, observation, and the wisdom gained during the generations to utilize the therapeutic capabilities of different plants (Uddandrao & Saravanan, 2025). Knowledge of these medicinal properties was often a combination of cultural practices and traditional beliefs, and empirical experiences (Blanding, 2024). This information gradually developed further and gave rise to elaborate systems of traditional medicine in other regions of the world (Wyk and Wink, 2023).

When examining the historical background behind the use of medicinal plants, we dive into the history of traditional medicine and trace the beginnings of its history behind the ancient

civilizations and further into recent times (Chevallier, 2023). The knowledge of how the use of medicinal plants has evolved and the societal and cultural influences that shaped its development can be used to understand how traditional medicine can be significant to modern healthcare systems (Joshi, 2024). Also, it illuminates the possibility of applying traditional knowledge to contemporary medical practice to improve the outcomes of healthcare (Dunbar, 2025; Kuca et al., 2025).

Research Question

What is the historical evolution of medicinal plants' usage across diverse cultures and civilizations, and how have societal, cultural, and economic factors influenced the utilization and development of traditional medicine based on medicinal plants?

Research Justification

For several reasons, understanding the historical context of medicinal plants' usage is vital (Micozzi, 2010; Stapley, 2023). Analyzing the historical context of medicinal plant usage helps bridge the gap between traditional medicine and modern healthcare systems (Joshi, 2024). It encourages the integration of conventional knowledge with evidence-based medicine, potentially enhancing healthcare outcomes and promoting holistic approaches to health (Singh et al., 2025).

Lastly, understanding the societal, cultural, and economic factors that influenced the utilization and development of traditional medicine based on medicinal plants is essential for appreciating the dynamic interplay between human societies and the environment (Farid, 2025). This information can be used to develop policies and practices that honor and protect traditional medicinal knowledge, sustainable harvesting of medicinal plants, and help in the conservation of biodiversity (Dunbar, 2025; Oakeley, 2024; Kindersley, 2023; Kuca et al., 2025). To conclude, it is essential to explore the historical background of the use of medicinal plants to enhance our experience of traditional medicine and foster integrative medicine and sustainable and culture-sensitive health and well-being practices.

Use of Medicinal Herbs in Different Cultures

1. Greek Era

The civilization of the Greeks was a time when science and philosophy flourished (Stapley, 2023). Greeks have contributed much to medicinal sciences, particularly phytopharmaceuticals (Oakeley, 2024). Aristotle reported 500 primitive medications that were used to treat various pathological diseases (Kindersley, 2023). Hippocrates is regarded as the founder of allopathy (Micozzi, 2010). He invented the earliest medical treatment scientific paradigm. He contended that the disruption of the natural operation of the human systems led to the occurrence of many clinical diseases. Consequently, the treatment was focused on the etiology of the conditions to restore the disequilibrium of the body systems. Nearly 400 samples of therapeutic compounds derived from plants have been identified by him.

In his work, Theophrastus (370-287 BC), an Aristotelian student, mentions 500 primitive medications (Stapley, 2023). Claudius Galen of Pergamum (modern-day Bergama, Turkey) is another notable name (129-199 AD). He created stable and therapeutically beneficial medications utilizing diverse extraction procedures known as Galenicals and invented the notion of medicine formulation. About 300 books on plants were written by him (Kindersley, 2023).

2. Conventional Chinese Medicine

Conventional Chinese medicine is one of the world's ancient medical systems (Oakeley, 2024). Traditional Chinese medicine's ideas, treatments, and therapies are distinct (Stapley, 2023). Because of its evidence-based approach, this successful medical system has gained an international reputation. External influences are almost non-existent in this system. Fu His (2953 BC) is regarded as the founder of this medical method (Kindersley, 2023).

Traditional Chinese medicine prescriptions address exogenous elements thought to be involved in the disease. Emperors Shen Nung

and Hong Ti advanced this method considerably later (Stapley, 2023). Pen Tsao, a Chinese pharmacopeia, offered various cures for various medical issues. Shen Nong Ben Cao Jin has the title of written Chinese medicine king (22-250 AD) (Oakeley, 2024). Cao Yuan Fang (550-630) authored Zhu Bing Yuan Ji Lun, a treatise explaining many ailments' causes and symptoms. This book is regarded as a fundamental reference for Chinese medical students (Kindersley, 2023; Micozzi, 2010).

Wang Tao (702-772) is a well-known figure in the conventional medicine of China. Waitai Miyao, in his published work, described over six hundred prescriptions (Oakeley, 2024). His theory of diagnosis was built around the tongue. The color and state of the tongue alter due to several disease situations. Li Shizen, a prominent Chinese physician and scientist, wrote Ben Ca Gang Mu, a more comprehensive pharmacopeia published in 1596 (Stapley, 2023). It consists of 1894 prescriptions and is still used in China and other cultures as a guide for study and education (Kindersley, 2023). Notably, conventional medicine in China was passed down through the generations, but it was only in the 1950s that it was formalized as an academic teaching program (Oakeley, 2024).

3. Conventional Ayurvedic Medicine

The conventional medicine of India, often known as "Ayurveda," is the world's ancient system for maintaining health (Stapley, 2023). This system is described in the oldest literature, such as the Rig-Veda and Atharva-Veda, dating back to around 5000 BC (Oakeley, 2024). Ayurveda is a Sanskrit phrase that roughly translates to "living wisdom" (Kindersley, 2023). It is an all-natural treatment technique that combines physiologic and holistic medicine. Ayurveda describes man as a matrix of seven fundamental tissues that operate harmoniously, with sickness resulting from an imbalance in these bodily components (Micozzi, 2010; Stapley, 2023).

4. Arabic Period

Following the fall of the Roman Empire, the Arabs achieved significant advances in science and medicine (Siddiqui, 2008). Islamic scholars played a crucial role in translating books from Greece and Rome (Wilkinson & Salazar, 2002). In addition to introducing various drugs, Arab physicians also introduced the concepts of dietary management and exercise as part of their medical practice (Ajram, 1992). Arabs were the forerunners in the establishment of fundamental pharmaceutical techniques (Khan, 2009). It involves the establishment of pharmacy stores, the role of physicians as illness diagnosticians, and the use of pharmacists for medication extraction and formulation (Abdalla, 1981). This delineation sparked the initiation of progress in each field (Jundi, 1997). Notably, the Muslim scientist Jabir Bin Hayyan played a pivotal role by extracting and isolating numerous substances, including alcohols, nitric acids, and sulfuric acids (Norwawi, 2021).

In Arabia, the faith of Islam has given the science of medicine a new dimension (Morrow, 2011). Islam has outlined what should be considered a clean lifestyle (Saad & Said, 2011). These concepts are referred to as "Tibb al-Nabi and they are mainly founded on the Quran and Sunna (Johnstone, 1998). Ali Ibn Rabban Al Tabri was another renowned Muslim scientist in the period between 782 and 855 AD (Al-Hassan, 2001). In his Firdous Al Hikmat, he divided his work into seven parts, one of which was about medicines and poisons. Abu Ali Al Hussan Ibn Sina (Avicenna, 980-932 AD) discovered the Greco-Arabic school of medicine. His book, the Canon of Medicine, which contained more than 1000 drugs, was taken as a textbook in medicine in Europe. His second book is called Kitab Al-Shifa, and it is considered a scientific dictionary. The Arabs recorded the toxic nature of many plants besides their curative and medicinal value. "The Treatise on Poisons and Antidotes" by Abu Musa Jabir Bin Hayyan is a comprehensive book on various plant poisons and antidotes.

5. Use of Medicinal Plants by Prophet Muhammad (PBUH)

Islam can adapt to new technology and a comprehensive way of life (Khan, 2009). Biomedical ethics principles in Islam are tied to the Holy Qur'an and the Holy Prophet Muhammad (PBUH) (Abdalla, 1981). Researchers are increasingly focusing on natural products to generate better medications for cancer, viral and microbial infections, and other diseases (Norwawi, 2021). The holy Qur'an, which is 1400 years old and was given by the angel Gabrielle to Prophet Mohammed (PBUH) in Arabic, mentions several plants that are beneficial to humans (Ajram, 1992). Several plant species are mentioned in the Holy Qur'an, including grapes, figs, garlic, and ginger etc. (Jundi, 1997).

Crops, such as grains, seeds, and fodder, and their reproductive and germination processes in the plant world are also discussed (Morrow, 2011). The Holy Qur'an is the finest reference book for understanding the importance of herbs in various Surahs, such as Al-Bakra, Al-Momeenoon, Al-Rehman, and Al-Inaam (Siddiqui, 2008). Prophet Muhammad (PBUH) employed and advised therapeutic herbs for various ailments and food (Wilkinson & Salazar, 2002). Abdul Malik Bin Habib Undlasi penned his inaugural work, "Tib-e-Nabvi," during the second century of Hijra (Johnstone, 1998). Following him, Muhammad Bin Abu Bakar Ibne Ulsani and Abu Naeem Isphani also contributed to this subject by composing their writings during the third century of Hijra (Saad & Said, 2011).

Other Muslim academics, such as Ali bin Mossa Raza and Imam Kazim Bin Jaffar, also worked on Islamic remedies (Al-Hassan, 2001). Muslim scholars such as Abi Jaffar Almustaghfrik, Shams Uddin Albali, Zia Uddin Almukadasi, Muhammad bin Ahmed Zahabi, Kahalibne Tarkhan, Jalaluddin Alseuoti, Muhammad Abu Baker Alkaim, and Abdul Razzaq Bin Mustafa Altanki worked hard in this subject throughout the fourth century of Hijra (Saad & Said, 2011). An example of one of the best novels written in this era is that of Abdul Razzaq Altanki, Alnabvi fee Mannaf al Makalat (Al-Hassan, 2001). The other most significant and yet available book is "Kanzulamal Fee Sanan Walakwal," which also renders us with a lot more knowledge about the medicines of the Holy Prophet (Johnstone, 1998). These medicinal plants are still widely employed as a critical source of medications for treating various illnesses (Ajram, 1992; Morrow, 2011). The Holy Quran is used as a source for the citation of these plants (Abdalla, 1981).

6. Muslim Spanish Era

Muslims, Christians, and Jews lived in Muslim Spain (711–1492) (Khan, 2009). It took Europe to the same level of civilization that compared with the Roman Empire and the Italian Renaissance (Ajram, 1992). During the Islamic golden era, which was the period between the eighth century and the fifteenth century, Islamic scholars collected and recorded knowledge by sharing their discoveries, and this was pooled all over the world (Siddiqui, 2008). Islamic medicine was based on the doctrine in the Quran and Hadiths, which stated that Muslims were obliged to treat the sick, and this was what was usually known as "Medicine of the Prophet (Johnstone, 1998). He believed that Allah had provided a solution to all diseases and Muslims were obliged to take care of their bodies and souls (Saad & Said, 2011).

The founding of hospitals and the payment of charitable gifts known as the Zakat Tax were two of the most significant contributions of the Islamic period to the history of medicine (Abdalla, 1981). Evidence shows these hospitals existed as early as the eighth century and quickly expanded across the Islamic world (Norwawi, 2021). These medical facilities offered on-site medical care and dispatched physicians and midwives to underserved rural areas (Jundi, 1997). They facilitated a conducive environment for healthcare professionals and other staff to engage in studies and research (Morrow, 2011). The Muslim Arabs of Spain were zealous in their pursuit of medical knowledge (Al-Hassan, 2001). "Most Spanish Arab physicians were physicians by occupation and something else by profession," Hitti writes (Wilkinson & Salazar, 2002).

Conclusion

The use of medicinal plants in history offers a fascinating history of humans relying on nature for cures and healing through all cultures and centuries. While the history is limited and often very little evidence is available, cultural differences, translation issues, and levels of scientific advances are obvious; it is important to refer to this history. This journey has taken us on a trip back to ancient civilizations and their discovery of the origin of traditional medicine and the countless number of plant products. From the wound treatment of ancient civilizations to traditional Greek medicine, traditional Chinese medicine, and the Indian Ayurveda, to the treatment of the pre-Islamic and post-Islamic era, we have witnessed the great impact of geography, culture and tradition on the use of medicinal plants.

The history of medicinal plant use will provide one with a better understanding of what they knew and how they wisely applied their knowledge to treat the ill and diseased. It is a story on how humans are connected to the environment and the need to preserve traditional knowledge and sustainable harvesting practices to ensure a healthy attitude for the future generations. In this modern world of advanced medical technologies and synthetic drugs, we need to bring the knowledge of the past use of plants into our present health care system.

It is possible to integrate traditional knowledge and modern science into a holistic approach to health and to suggest solutions to current problems in health care, as well as to promote a more sustainable and culturally sensitive health care system. In conclusion, it can be stated that the story of the use of medicinal plants in the past helps us to understand the past and appreciate the amazing human capacity to recognize, apply and adapt to the healing potential of the environment. It invites us to learn and appreciate the ancient knowledge that will help us to deal with health and well-being more holistically and inclusively in the future and now.

Research Limitations

1. **Limited Historical Records:** One significant area for improvement in studying the historical context of medicinal plant usage is the need for comprehensive and well-preserved historical records. Most of the old healing methods were only transmitted orally, and it wasn't easy to come across the right information on the historical use of medicinal plants in detail.
2. **Cultural Bias:** Studies on this subject are prone to cultural bias since other cultures have different attitudes and perceptions towards the use of medicinal plants. It may result in the lack of a complete or distorted picture of the historical situation, primarily when particular cultural points of view are over-represented.
3. **Translation and Interpretation Problems:** There are numerous historical texts that pertain to the use of medicinal plants, which could be in languages that are no longer commonly spoken or have been significantly changed. Translations and interpretations may give errors and misinterpretations that would interfere with the historical records.
4. **Selective Historical Documentation:** The history of historical records is frequently interested in leading persons or highly documented customs, and thus it may fail to take notice of the work of less renowned people or local customs. This bias could provide a partial account of the history of the use of medicinal plants.
5. **Absence of Scientific Rigor:** Traditional medicine practice can only partially comply with the modern scientific requirements. As a result, the effectiveness and safety of certain traditional medicines need to be strongly documented or proven scientifically, so it isn't easy to make absolutely definite conclusions regarding the way in which they were used in the past.
6. **Temporal and Geographical Variability:** The historical background of the medicinal plant use differs greatly in terms of time and geography. It may not be easy to generalize the findings to other historical periods and regions, and it is necessary to concentrate on particular periods or cultures.

7. **Loss of Traditional Knowledge:** Cases of loss or dilution of traditional knowledge of medicinal plants have also occurred as a result of cultural assimilation, urbanization, and globalization. Such dismantling of knowledge may restrict the scope of historical study.
8. **Ethical and Legal Considerations:** The access and utilization of traditional knowledge pertaining to medicinal plants should be conducted in an ethical and lawful manner with regard to the intellectual property rights and cultural sensitivity of the indigenous communities.

Research Implications

1. **Improved Integration of Healthcare:** The studies in this field may inform the creation of evidence-based complementary therapies to create a more holistic and inclusive method of patient care.
2. **Conservation and Sustainable Use:** Studies on the history of the use of medicinal plants highlight the need to practice sustainable harvesting and conservation of the plants. Knowing the past trends in the use of natural resources will enable us to recognize the sustainable use trends and guide the conservation strategies to avoid the destruction of biodiversity and the availability of medicinal plants to future generations.
3. **Holistic Health Approach:** The fact that the present healthcare system is introducing historical perspectives encourages the holistic approach to health, and the definition of health does not simply presuppose physical health only, but the cultural, spiritual, and environmental health. It is an inclusive approach that has the potential to improve the patient experience and their satisfaction with healthcare services.
4. **Drug Discovery and Innovation:** The historical history of use of medicinal plants may act as an impetus to the new drug discovery processes. The study of ancient remedies can inform the researcher to explore certain plants or compounds that could have therapeutic value, and this has resulted in the creation of new drugs and therapies.
5. **Fostering Cultural Resilience:** Research in this area leads to cultural resilience by appreciating and acknowledging the knowledge that is contained in the traditional practices. It aids in the maintenance and the glorification of cultural diversity, whereby a sense of identity and pride among the indigenous people is facilitated.

Future Research Directions

1. **Traditional Medicine Longitudinal Studies:** By starting a series of long-term studies to monitor the history of the use of medicinal plants will be very beneficial. This longitudinal method can shed light on the change of traditional medicine.
2. **Phytochemical and Pharmacological Studies:** Phytochemical Investigations and Pharmacological Investigations: Intensive phytochemical studies and pharmacological research to confirm the medicinal action of the historical plants and remedies. The study will be useful in acquiring a scientific foundation on the effectiveness and safety of the traditional use of medicinal plants.
3. **Combining Traditional Knowledge and Modern Medicine:** Discuss how traditional knowledge of medicinal plants can be incorporated into the current medical practice and how it will maximize the effectiveness of treatment and increase the availability of healthcare and healthcare costs.
4. **Impact of Environmental Change on Medicinal Plants:** Studies have been conducted to identify the effects of climate change, deforestation, and habitat degradation on the quality and quantity of medicinal plants. Decipher how these environmental factors have been used in the past in medicine and how they might be used to affect healthcare practice in the future.
5. **Digital Humanities and Natural Language Processing:** With the help of digital humanities and natural language processing, the analysis of antique texts and documents featuring information in the domain of medicinal plants, the history of medicine will, in turn, be able to understand historic medicine practices more systematically and comprehensively.

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