



## **THE IMPORTANCE AND USES OF MEDICINAL PLANTS IN THE METHOD FOR DISEASE PREVENTION**

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### **Abstract**

Medicinal plants grow naturally around us. Over centuries, cultures around the world have learned how to use plants to fight illness and maintain health. Increasingly, medicinal species that reside in natural areas have received scientific and commercial attention. Medicinal plants have been playing an essential role in the development of human culture. As a source of medicine, Medicinal plants have always been at the forefront of virtually all cultures of civilizations.

The usefulness of the common-factor approach as a method of engaging other health promoters in propagating the ideals of medicinal plants is highlighted. The place of medicinal plants in preventing common diseases is further examined under the five core principles of the Primary Health Care (PHC) approach. Medicinal plants play vital roles in disease prevention and their promotion and use fit into all existing prevention strategies. However, conscious efforts need to be made to properly identify, recognize, and position medicinal plants in the design and implementation of these strategies. Medicinal plants are globally valuable sources of herbal products, and they are disappearing at a high speed. Medicinal plants are globally valuable sources of new drugs. There are over 1300 medicinal plants used in Europe, of which 90 % are harvested from wild resources; in the United States, about 118 of the top 150 prescription drugs are based on natural sources. Furthermore, up to 80 % of people in developing countries are dependent on herbal drugs for their primary healthcare, and over 25 % of prescribed medicines in developed countries are derived from wild plant species. With the increasing demand for herbal drugs, natural health products, and secondary metabolites of medicinal plants, the use of medicinal plants is growing rapidly throughout the world.

As medicinal plants receive increased scientific and commercial attention, there is increasing pressure on the wild plant populations from which most medicinal plants are harvested.

The conservation and sustainable use of medicinal plants have been studied extensively. Various sets of recommendations have been compiled regarding their conservation, including the

establishment of systems for species inventorying and status monitoring, and the need for coordinated conservation practices based on both in situ and ex-situ strategies. For medicinal plants with increasingly limited supplies, sustainable use of wild resources can be an effective conservation alternative. In China and South Africa, the situation is particularly critical because of the high demands of large populations.

**Keywords:** Medicinal Plants, Secondary metabolites, Disease Prevention, Health Care benefits, etc.

## Introduction

Human beings have depended on nature for their simple requirements as being the sources of medicines, shelter, foodstuffs, fragrances, clothing, flavors, fertilizers, and means of transportation throughout the ages. This planet's spectacular web of life supplies countless gifts to humanity. Healthy wild ecosystems clean the water we drink and produce the air we breathe, the foods we eat, the medicines that cure and protect us, and the materials that form our shelter and clothing. Wild ecosystems moderate our climate and mitigate natural hazards such as hurricanes, floods, and landslides. A World Health Organization (WHO) Expert Group defined Traditional Medicine as the total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention, and elimination of physical, mental, or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing. The traditional medicine practice is widespread in China, India, Japan, Pakistan, Sri Lanka and Thailand. About 40% of the total medicinal consumption is attributed to traditional tribal medicines alone in China. It is estimated that in the mid-90s, more than US\$2.5 billion resulted from the sales of herbal medicines.

The medicinal species that reside in natural areas have received increasing scientific and commercial attention in recent years.



Cinnamon	B.S: <i>Cinnamomum zeylanicum</i> F: Lauraceae	Cinnamaldehyde, Cinnamic acid	Antimicrobial
<b>Source: Roots</b>			
Ipecac	B.S: <i>Cephaelis ipecacuanha</i> F: Rubiaceae	Emetine	For amoebic dysentery
Rauwolfia	B.S: <i>Rauwolfia serpentina</i> F: Apocynaceae	Reserpine	Antihypertensive
Ashwagandha	B.S: <i>Withania somnifera</i> F: Solanaceae	Withanolides	Adaptogen
<b>Source: Stems</b>			
Kalmegh	B.S: <i>Andrographis paniculata</i> F: Acanthaceae	Andrographolide, Kalmeghin	Hepatoprotective
Tree turmeric	B.S: <i>Coscinium fenestratum</i> F: Menispermaceae	Berberine	Bitter tonic
Ephedra	B.S: <i>Ephedra gerardiana</i> F: Ephedraceae	Ephedrine	Increase heart rate

A medicinal plant is any plant that, in one or more of its organs, contains substances that can be used for therapeutic purposes or which are precursors for the synthesis of useful drugs. This description makes it possible to distinguish between medicinal plants whose therapeutic properties and constituents have been established scientifically and plants that are regarded as medicinal but which have not yet been subjected to a thorough scientific study.

## Future scope

Future Prospects of Medicinal Plants There is a promising future for medicinal plants as there are about half a million plants around the world and most of them have not been investigated yet for their medical activities their hidden potential for medical activities could be decisive in the treatment of present and future studies. Several plants have been used in traditional medicine for many years. Some do seem to work although there may not be sufficient scientific data to confirm their efficacy. Such plants should qualify as medicinal plants. The term 'crude drugs of natural or biological origin' is used by pharmacists and pharmacologists to describe whole plants or parts of plants that have medicinal properties. plants or plant parts used medicinally in galenical preparations e.g. Cascara bark plants used for extraction of pure substances either for direct medicinal use or for the hemi-synthesis of medicinal compounds food, spice, and perfumery plants used medicinally, e.g. ginger; microscopic plants, e.g. fungi, actinomycetes, used for isolation of drugs, especially antibiotics. Two main types of approaches have been advocated in tackling major public health problems. The whole-population strategy targets the community as a whole to control the occurrence of new diseases in the population. The high-risk strategy on the other hand aims to identify individuals most at risk for a disease or outcome and then target preventive efforts at that group. The common risk factor approach aims at bringing together several health promoters working on eliminating common risk factors as a way of preventing diseases.

## Discussion

Working with various groups, for example, appropriate medicinal plants can be incorporated into the diets to alleviate disease and suffering. This approach will enable those working to promote the use of medicinal plants to collaborate with other health promoters in areas such as malaria, diabetes, cancers, cardiovascular diseases, tuberculosis, HIV/AIDS, oral diseases, dermatological problems, etc. The PHC philosophy recognizes that each discipline contributes to health and health services delivery within a PHC model, both in a unique sense and through collaborative interdisciplinary practice.

### Plants used for the prevention of Coronary Heart Disease

Coronary Heart Disease (CHD) is the primary contributor to morbidity and mortality worldwide. A great deal of research is now focused on identifying new therapeutic alternatives to prevent and treat CHD. The most consistent recommendations from a Public Health perspective involve multiple changes in diet and exercise. Medicinal plants are also a viable option for its prevention and treatment. Clinical and preclinical data on some medicinal plants used as dietary supplements show that they may be useful in the strategies to reduce the prevalence and mortality of CHD either in the general population or in the subsets of individuals at high risk. Such plants include for example, artichoke, garlic, ginkgo, guggul, hawthorn, and tea.

#### Garlic

Over 35 randomized clinical trials on garlic were carried out to investigate the effect of garlic on cardiovascular endpoints. Overall, there is evidence from randomized controlled trials (RCT) in adults that the use of garlic preparations can lead to a small but statistically significant reduction in total cholesterol levels compared with controls.

#### Guggul

The Mukul Myrrh tree has been used as far back as 600 BC. According to the recent WHO Monograph for Guggul, the plant is useful for the treatment of hyperlipidemia and hypercholesterolemia. The plant sterols, E- and Z-guggulesterone, are believed to be bioactive compounds.

Distribution of medicinal plants The distribution analysis of the medicinal plants shows that they are distributed across diverse habitats and landscape elements. Nearly 70% of the medicinal plants in India are found in tropical forests in the Eastern and Western Ghats, Chota Nagpur plateau, Aravalis, Vindhyas, and the Himalayas. Among the Himalayas, the Kashmir Himalayan region is nestled within the Northwestern folds of the recently designated global biodiversity hotspot of the Himalayas. It is an integral but geologically younger part of the main Himalayan range.



Oral diseases are major health problems with dental caries and periodontal diseases among the most prevalent, preventable global infectious diseases. Oral health influences the general quality of life and poor oral health is linked to chronic conditions and systemic diseases. The association between oral diseases and the oral microbiome is well established. Although there are more than 750 species of bacteria that inhabit the oral cavity, most are normal commensals and only a few are implicated in oral diseases. The development of dental caries involves acidogenic and aciduric Gram-positive bacteria. The efficacy of chewing sticks used for preventive dental care has been reported by Sofowora and others. It is common knowledge among women in Africa, especially in Burkina Faso, to rub the skin of newborn babies with various medicinal plants soaked in oil to prevent them from bacterial infection as they are carried by various people. There are also herbs to be taken just before delivery to hasten or ease delivery. However, the use of herbs in late pregnancy could be because of their oxytocic properties. Some preparations for preventing road accidents exist in Africa just as there are similar preparations utilizing the occult power of herbs to eject a person from an accident vehicle before the accident. These latter preventive uses of medicinal plants involving the occult power of herbs may be beyond the present capabilities of scientific experimentation to prove their efficacy.

## Conclusions

Habitat loss and unchecked commercialization of wild medicinal plants are threatening the future of vital resources, as well as the beauty, diversity, and natural heritage of our planet. As wildlands are destroyed or degraded, we lose unique and precious species, from flowers to frogs to butterflies, and with them potential resources to combat hunger, poverty, natural disasters, and social and economic insecurity. This loss of diversity may also take with it important cures for diseases — both those we face now and those that may emerge in the future. Unchecked commercialization may render important traditionally used medicinal plant resources inaccessible and unaffordable to populations that have relied on them for centuries — as well as to the rest of the world.

Efforts must be geared towards measures that will enhance the effectiveness, efficacy, and rational use of medicinal plants, especially through integration into national, regional, and local health policies and programs. Most African countries, for example, think of their health care system as the Primary Health Care (PHC) strategy and it is necessary to incorporate the use of medicinal plants into all the components of PHC in these countries.

The recognition of the value of medicinal species and our remaining biological diversity, in general, must be incorporated into our laws, as well as our land and resource management methods, through the adoption of these types of priorities, management practices, and philosophical frameworks. Unless we act now, we are doomed to lose countless lifesaving treasures, often without even knowing of their existence. No intelligent species should needlessly risk its future through thoughtlessness and waste.