



## Use of Pharmacognosy in Developed Countries

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### DESCRIPTION

Pharmacognosy is the study of medicines or herbal medicines made from natural sources such as plants, microorganisms and animals. This includes analysis of their biological, chemical, biochemical and physical properties. Because herbal medicines occur naturally and are not synthesized, they are considered more acceptable to the human body. Approximately 25% of prescription drugs in the United States are believed to contain active ingredients of natural origin. In developing countries, it is estimated that about 80% of the population depends on traditional medicines made from plants and herbs. Plants and organisms are used in a variety of ways to produce traditional and alternative medicines. A plant's beneficial agents are found everywhere in its physical structure, such as the petals and stems of flowers.

Natural products may be inactive in their normal physical form and may require chemical reaction or modification to render them active. Sometimes the active ingredient is extracted directly from the plant, but sometimes it can be synthesized by creating a compound that acts similarly to the plant extract. Humans have been making medicines from plants and other living things for centuries. As such, herbal medicine is widely considered to be the oldest pharmaceutical brand. There is evidence of making medicines in the Sumerian clays of Nagpur dating back 5,000 years, and about a dozen ancient medicinal recipes have been found containing herbal ingredients such as poppy and mandrake, a Mediterranean plant of the Solanaceae family.

The manufacture of medicines from plants is also mentioned in many ancient texts. Over the centuries, information has been found about people making medicines from garlic, mustard, cabbage, parsley and mint. Practices were held all over the world. Materials depend on what is readily available to those around you. The extraction of alkaloids from poppies and other plants contributed to the beginning of modern medicine in the 19th century. Since that time, other active ingredients have been extracted from other plants to create the current medicines.

The American Society of Pharmacognosy (ASP) defines Pharmacognosy as "the study of the physical, chemical, biochemical, and biological properties of drugs, drug substances, or potential drugs or drug substances of natural origin, as well as various Natural Resources." (WHO) World Health Organization most countries in the Southeast Asian region have a legacy of traditional healthcare systems. According to the latest WHO report, about 80% of the world's population still uses natural products for primary health care. Combining Pharmacognosy with modern medical systems can provide safe and effective medicines.

The roots of herbal medicine are embedded in traditional medical practices around the world, documented through traditional systems of knowledge, folklore, spells, material Medica, and pharmacopoeia. Pharmacopoeias reflect research and standards regarding the identity, purity, quality, and clinical effectiveness of pharmaceuticals, while Material Medica reflects traditional indications and uses. Principles are now being incorporated into pharmacology through systematic, evidence-based investigations in terms of purity, potency, extraction methods, and isolation of active ingredients, consistency, efficacy and safety.

Herbal medicine continues to be a central feature of traditional medicine and pharmacology, with the former still being the primary source of medicine in developing and emerging countries. However, modern Pharmacognosy includes an increasing number of sciences, particularly through the introduction of molecular, genomic, and metabolomics techniques that are increasingly featured in various fields such as molecular biology, biotechnology, proteomics, and bioinformatics. The field of Pharmacognosy has undergone a major boom in recent years with increasing global demand for more comprehensive, safer and more effective medical approaches. The purpose of this chapter is to provide an overview of plant pharmacology, focusing on secondary metabolite classes relevant to human biology, pathology, and clinical practice.

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