



## Pharmacognosy in Iran

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Pharmacognosy, is defined as the “study of drugs that originate from the nature”. Pharmacognosy has risen from the mysterious incantations of voodoo tribes and has survived the unwritten secret recipes of medicine men. Today, pharmacognosy is a highly specialized science that represents one of the major disciplines of pharmaceutical education. Because of the interest it engenders in many of the current era scientists, pharmacognosy is a respected discipline that has no counterpart in the other professions.

During the past few years, as a result of the intense concern with all aspects of ecology, there has been a renewed interest in so-called natural foods and drugs.

As a part of the pharmaceutical curriculum, pharmacognosy forms an important link between pharmacology and medicinal chemistry on one hand and between pharmaceuticals and clinical pharmacy on the other. Pharmacognosists may be the leaders of a multidisciplinary team consisting of a botanist, a pharmaceutical chemist, and a pharmacologist. This team could effectively carry out the successful strategies for investigation of medicinal agents from higher plants.

Pharmacognosy has a very long history in Iran, and has a history related to ancient Iran’s culture and civilization. There are a lot of historical evidence, revealing the use of plants and other natural products in ancient Iran that dates back to 6000 years ago. However, they started to write and organize these documents around 2500 years ago.

Following the turning of people to Islam, more than 1400 years ago, it resulted in the caused development and improvement in all sciences, especially in medicine. Avicenna, Rhazes, Jorjani, and many other physicians and scientists appeared during this era. They all used herbs and natural products as medicines to restore and maintain health.

Iran also has different climates and geographical conditions that result in the growth of numerous plant species. At present, more than 8000 plant species grow in Iran. Near 300 plant families grow all over the world, from which 200 families are known to grow in Iran. Besides, many different plants which have been transferred from different countries to Iran, could also be grown in Iran.

Iran has been the intersection of different cultures (China, Egypt, Greece, Arab countries, Roma, and India). Silk Road used to pass across this country, so many documents and written knowledge had come to Iran, and different cultures, attitudes, and treatments had been introduced through contraction between different nations. All these reasons have improved herbalism, and hence pharmacognosy in Iran. In the Iranian traditional medicine, indigenous herbs, as well as other natural products like the animal products, minerals, and even some insect products are used as medicine.

Pharmacognosy, nowadays, is one of the major fields of pharmacy in Iran, and now in 11 pharmacy schools in Iran (Tehran, Shaheed Beheshti, Isfahan, Tabriz, Mashhad, Ahwaz, Sari, Kerman, Kermanshah, Shiraz, and Islamic Azad), many researchers and students are engaged in this field. Also pharmacognosy Ph.D. students are being trained in the first 4 schools mentioned above. In addition, some institutions and research centers are researching in this field. Most of the researches in this area consist of essential oil analysis (by GC/MS), biologic and pharmacologic studies on herbal extracts, phytochemistry, and clinical trial of herbal products. All of these researches are based on the introduction and usage of various plants taken from the traditional medicine documents.

Studies and researches in pharmacognosy have resulted in the production of more than 140 herbal medicines, formulated as various dosage forms in Iran. In Iran, these products should undergo the control and surveillance studies such as the pharmacological and toxicological investigations, clinical trials, physicochemical and microbial quality control tests, determination of effective components, etc. Moreover, more than 1000 natural remedies are available in herb-shops situated in different cities.

During the wars, as a result of increasing number of trips and immigrations, armies and travelers moved around the world, and their medical skills, their plants, and other forms of medicines went with them. These complemented the various practices of healing they encountered on their travels, and led to the development and refinement of their treatments. The basis of most of these treatments is herbalism, and pharmacognosy plays a leading role in identifying, analyzing, controlling and determining of these natural products.

Pharmacognosical studies must be accelerated in countries with an old rich culture, like Iran. As a result of global warming, many species such as the plants are in danger of extinction. Many of these plants include useful and effective materials that can be used in making new drugs and/or lead compounds. The other countries should help to identify these effective chemicals.

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