

MEDICINAL AND AROMATIC PLANTS ARABIA AND IRAN

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Summary

In the Arabian Peninsula and Iran more than 300 plants are recorded for their medicinal value, and many others are noted as cosmetics, dyes, perfumes and for making utilitarian objects. The following chapter gives a brief introduction to the history and development of herbal and traditional medicine in the Middle Eastern region, and the system of diagnosis in the ancient Greek and Islamic systems; it also gives some of the major contributions of Islamic scholars towards the development of herbal medicine. The chapter lists the plants that have been used or are documented as cures for several diseases and conditions and disorders of the human body. The lists have been collated from several works by scholars who have worked and researched on herbal medicines.

1. Introduction

The recorded uses of plants as medicinals dates back over 5000 years to the earliest known civilizations, the Sumerians in southern Mesopotamia, modern day Iraq.

Uses of plants such as laurel, caraway and thyme were described for treating diseases and ailments. Sumerians also developed the art of writing, the practice of organized agriculture, irrigation, and the wheel and the arch was developed during their time which spanned over 3000 years.

The use of castor oil, coriander, garlic, indigo, mint and opium has been recorded by the Egyptians from about 1000 BC, the Chinese herbals from about 2700 BC (where *Ephedra* species that yields ephedrine is mentioned), and the uses of turmeric have been described in Indian Ayurvedic medicine as early as 1900 BC.

Plants (and animals and minerals) were used by the ancient Greeks and Romans, but it was Hippocrates (c. 460 BC – 370 BC) and Galen (AD 129 – 199/217) who developed the principles of diagnosis and the use of plants which eventually became the basis of modern medicine. Hippocrates based his medical diagnosis on bodily humors which he assigned to a human body. Thus according to him, the human body contained blood, phlegm, yellow bile and black bile (Chadwick & Mann 1950):

“The human body contains blood, phlegm, yellow bile and black bile. These are the things which make up its constitution and cause its pains and health. Health is primarily that state in which these constituent substances are in correct proportion to each other, both in strength and quality and are mixed well. Pain occurs when one of the substances presents either a deficiency or an excess or is separated in the body and not mixed with the others.”

The Hippocratic system of the classification of bodily humors prevailed in the practice of medicine, and was later adopted by the Muslims as the classical Greco-Arab medicine or *Unani tibb* still taught and practiced today.

In *Unani tibb* four elements, earth, water, air and fire are related to the four bodily humors (blood, phlegm, yellow bile and black bile). In addition, over a period of time, a concept of four “qualities”, hot, cold, dry and wet were integrated with the original Greek system (Foster & Anderson 1987). Thus blood was hot and moist, phlegm cold and moist, yellow bile hot and dry and black bile cold and dry. Certain equilibrium between the four humors was considered necessary for a health body and an imbalance of any of the four resulted in sickness.

The concepts of Greek medicine were acquired by the Arabs through the works of Dioscorides (1st C. AD) and Galen (AD 131–201). During the 5th century Greek and Roman medicinal texts were translated by the Nestorians and taken to Persia (Iran). They also translated Indian medicinal texts from Sanskrit. With the spread of Islam and during the 9th to 13th centuries many medical works were translated into Arabic and developed and adapted by Muslim scholars into the Islamic system of medicine. The Arabs, being seafarers and traders had access to medical knowledge and material from far countries such as India and China which they incorporated into their medical knowledge. *Bimaristan* (medical schools) appeared from 9th Century where all aspects of medicine were taught in the Islamic world.

Scholars such as Ibn Dawoud Dinawari (of Persia, AD 828–896) described more than 600 plants and their uses in his book *Kitab al Nibat* (Book of Plants) for which he is considered the father of Arabic botany; Ibn Sina (Avicenna - Persian, AD 980–1037), a renowned physician, philosopher, physicist and astronomer of his time, wrote about 450 texts on various subjects of which 40 dealt with medicine. The Book of Healing and *Qanoon f'il tibb* (The Canon of Medicine) are some of his most famous and comprehensive works, the latter was standard medical text in European universities up until the 17th century. He introduced the concept of contagious diseases and quarantine, testing and efficacy of medicines, and besides other things the benefits of exercise for good health. He described several medicinal plants that were fully incorporated into the practice of herbal medicine. Medicine developed further under Muslim physicians from Persia, Iraq and Andalus (Spain), such as Al Razi (Razes) (AD 865–925) who is credited with writing a treatise on Small Pox and Measles not described earlier, and the first to use animal gut for sutures and Plaster of Paris for casts; Abu al Kassim Al Zahrawi (Albucasis b. AD 936) who developed surgical methods and is considered to be the father of modern surgery; Ibn Rushd (Averroes, b. AD 1200), a scholar of many disciplines, who wrote on Rules of Medicine; Ibn Al Nafis (AD 1210–1288) who is famous for describing the pulmonary circulation; Ibn al-Baitar (of Malaga, AD 1197–1248) who described more than 1,400 food and medicinal plants. By the 13th century the experimental scientific method became a part of medicine, taught and reinforced by Abu al Abbas al-Nabati (from Andalus and teacher of Ibn al Baitar). Al-Nabati taught and practiced verifiable techniques in identifying, describing and testing the efficacy of medicinal plants, thus initiating the science of pharmacology.

Together with knowledge and scholarship, a strong belief in God and Prophet Mohammed are considered of foremost importance for any cure in *Unani tibb*. Hadith, Volume 7, Book 71, Number 582, narrated by Abu Huraira states: The Prophet said, "There is no disease that Allah has created, except that He also has created its treatment". Based on the Hadith, several works were written on Prophet Mohammed's life and sayings relating to medicine which became known as *Tibb-al-Nabbi* (Medicine of the Prophet). Three of the better known works are those compiled by Abu Nu'aim (Persian, d. AD 1038), Ibn al-Qayyim al Jawziyya (from North Africa, d. AD 1350), and Jalaluddin ibn Abi Bakr as-Sayuti (from Egypt b. AD 1445). The books describe the theory of medicine (Islamic medicine) based on the Hippocratic four elements that constitutes man and what was in practice at that time, and the practice of medicine with references to the life and sayings of Prophet Mohammed and the Quran. *Tibb al Nabbi* also includes instructions for a healthy body on food intake, sleep, rest, body hygiene etc. and gives the properties of food and remedies according to the sayings of the Prophet and the Quran.

In addition to the use of plants for medicine (*al tadawee bil a' ashaib*), bone setting (*al tajbeer*), cupping (*al hajamah*) and cauterization (*wasm, qai*) are also practised in traditional medicine. In any of these forms of treatment, specific plants and food may be used as part of the treatment. A brief review is given here adapted from Ghazanfar 1994 and references therein:

Al Tajbeer (Bone setting)

Bone fractures are described as “cracks” when the fracture is not right through the bone and as “real fractures” when the bone is broken right through. Once the bone fracture is corrected a plaster made from the resin of *Acacia* spp., seeds of tamarind or lentils mixed with egg is applied. The fracture is then bound with cloth and the limb stabilised with wooden planks. If the setting is not done correctly, the bone setter may break the bone and set it again. Special plants are used for this procedure. During the period of recovery from bone fractures a special diet of honey (date or bee honey) is prescribed. In the Middle East, traditional bone setting is rarely carried out as access to modern hospitals and clinics is available to most of people.

Al Hajamah (Cupping)

Cupping is the traditional method of treating specific diseases that are believed to have been caused by “bad blood” in the body. Chronic pain in legs, headaches, obesity, and paralysis of the lower limbs are often treated by cupping. Cupping involves making superficial cuts in the skin on the back or below the knee, inverting a cup on it, creating a vacuum by making a small light and sealing the edges of the cup to the skin. The blood (black blood) that oozes out is considered to cure or help with the cure. Cupping is recommended in *Tibb al Nabbi* as a cure for several diseases and conditions.

Wasm (Cauterization)

Cauterization and the use of heat therapy were known as early as 3000 BC, when Egyptians used it for treating various conditions. Cauterization has also been used by the ancient Greek and pre-Islamic Arabs. Amongst the Arab physicians Abu al Qassim al Zahrawi (Abulcassis, AD 936–1013) greatly developed the use of cauterization for treating as many as fifty diseases. In his book, *Kitab al Tassrif*, he described various techniques and instruments that were used for cauterisation and for surgery. Cauterized parts were treated with plants to help with the process of healing (Ghazanfar 1995).

It must be noted that in traditional medicine there are certain beliefs that relate to having a healthy and a sound body. It is believed that too much food causes illness and dieting or abstinence from food is the main medicine. Ibn Khaldun (AD 1332–1406), Muslim philosopher and historian wrote in his book *Al Muqaddimah* (Dawood 1967):

... the nourishment is boiled by natural heat, stage by stage, until it actually becomes a part of the body. Now, illnesses originate from fevers and most illnesses are fevers. The reason for fevers is that the natural heat is too weak to complete the process of boiling of food in the body. The nourishment thus does not assimilate. The reason for that, as a rule, is either that there is great amount of food in the stomach that becomes too much for the natural heat, or that food is put into the stomach before the first food has been completely boiled. Consequently, the unassimilated nourishment becomes putrid. Anything in the process of putrefaction develops a strange heat. This heat is what, in the human body, is called a fever.

Though this belief is not commonly accepted, the concept of eating food and taking drugs with a “cool” quality for diseases and conditions that are “hot” is generally followed in traditional *Unani* medicine.

In the last two decades the dependence on the use of native plants for medicinal purposes has declined throughout the Middle East. Establishment of hospitals and primary health clinics and the availability of affordable medicines, especially for common ailments such as colds and coughs, headaches, upset stomachs, has led to a relative decline of use of herbal treatments. However documentation and chemical research into the potency of medicinal plants has become more popular, and the consequent development of drugs from certain plants has also led to the over exploitation of these plants in nature with the result that conservation measures have to be taken seriously for their preservation in the wild.

With urbanization changes in lifestyles in the Middle East, the knowledge of the uses of plants for medicinal purposes is being lost. Today the knowledge lies mostly with the elders especially women, in small towns and remote villages. In many instances, the lack of market has led to the closure of many local herbal shops, or they are stocked with exotic imported herbal treatments, mainly Indian or Chinese (Ghazanfar 1994). In both, Iran and the Arabian Peninsula herbal medicines are most commonly used for at primary health care level for common ailments such as the common cold, coughs, headaches, sun burn, muscular pain, and some digestive problems (e.g. colic, indigestion, etc.); herbal treatments are also commonly used during pre- and post-child birth.

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Biographical Sketch

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