

History and significance of phytotherapy in the human history.

2. Phytotherapy in ancient Greece and ancient Rome

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Abstract: The successors of great ancient civilisations of the Near East, Egypt, China or India, i.e. the communities of ancient Greece and ancient Rome, converted their ancestors' magical and often mythical knowledge of medicinal plants and their possible applications into well-ordered medical knowledge. The achievements of ancient Greek and Roman philosophers and physicians provided the foundations for further development of phytotherapy, defining many concepts and methods still successfully used in modern phytotherapy.

Key words: history of herbalism, phytotherapy, herbs, ancient

Introduction – definitions of phytotherapy and pharmacognosy

Phytotherapy, from the Greek „phyton” meaning „plant” and „therapeuo” meaning “treatment”, is the term used to describe therapy with medicinal plants. Phytotherapy, also called phytopharmacology or herbalism (herbal medicine), deals with the production of herbal drugs using natural or processed raw materials obtained from medicinal plants (including fungi, apiarian products and some minerals) and their applications in prevention and treatment of diseases. Another objective of phytotherapy is to study the properties of medicinal plants, i.e. mechanisms of action of herbal drugs and their effects on living organisms, metabolism of active substances contained in them, dosages of individual preparations as well as possible adverse effects or interactions between herbal products and synthetic drugs. However, the most important and desirable components of herbal drugs are the biologically active substances contained in them (e.g. glycosides, tannins, essential oils, or resins);

the efficiency of phytotherapy depends mainly on their kinds and concentrations in various plant parts. Moreover, phytotherapy is concerned with searching for new plant medicines and discovering new phytotherapeutic applications of already known medicinal plants [1-3].

The term of pharmacognosy comes from the Greek words *pharmakon* (drug) and *gnosis* (knowledge), meaning the knowledge of drugs. Pharmacognosy predominantly deals with descriptions of substances of plant origin, i.e. anatomy of plant raw materials, chemical compositions of active substances derived from plant raw materials, their mechanism of action and effects on human organisms as well as production and applications of herbal drugs obtained from plant raw materials. Pharmacognosy is confined to such natural substances whose processing is based exclusively on simple separation of active constituents from ballast substances; it does not deal with the chemical substances in plants that can serve as a raw material for synthesis of other chemical compounds.

History of phytotherapy – ancient Greece

(c. 2000 B.C. – 150 A.D.)

The development of general medical knowledge in Europe was initiated by ancient Greeks, who verified and supplemented the phytotherapeutic knowledge originating from Egyptian and Aegean culture. In ancient Greece, phytotherapy was highly developed: initially, it was mainly associated with the religious cult and temples in which it was practiced. The Greek myths mention numerous gods and heroes who provided people with medical knowledge based on the use of various herbs [4]. Many plant names are Latinised names of Greek gods and heroes, e.g. yarrow called *Achillea* (after Achilles, the greatest warrior of the Trojan War), mugwort - *Artemisia* (after Artemis, the goddess of the hunt, forests and hills), iris - *Iris* (after Iris, the goddess of the rainbow), avocado - *Persea* (after Perseus – the hero who slew Medusa), centuria - *Centaurium* (after Centaur, a half human half horse mythical creature), and nenuphar called *Nymphaea*, after Nymphs, goddesses in charge of forces of nature.

Phytotherapy was of great interest not only to gods and priests but also to secular representatives - philosophers, scientists, and physicians. The magic elements were gradually eliminated from phytotherapy, which was becoming increasingly secular [4]. Over time, people started to specialise in this field; there were pharmacopoles responsible for the preparation of medicines and rizotomes who searched for, harvested and prepared herbs. Herbs were sold to physicians and patients in an “*apotheke*”, presently called a pharmacy (chemist’s).

The most famous physician of ancient times was Hippocrates from Kos (c. 460–377 B.C.), the author of the medical oath and founder of medical ethics based on the principle “*primum non nocere*” – “first, do not harm” [5-6]. His knowledge regarding medicinal agents and methods of treatment, gained during numerous travels, Hippocrates included in *Corpus Hippocraticum*, a collection of about 300

medicaments of plant, animal, and mineral origin. He rejected the theory that a disease is exclusively a divine retribution. According to him, the rational nutrition (proper diets), hygiene and environment highly affect the physical and mental condition of humans. Moreover, Hippocrates claimed that medicaments should be prepared only from natural unprocessed plants. Moreover, he described the cosmetic use of such herbs as sage, rosemary, or common yarrow.

Another Greek scientist, who contributed to the development of phytotherapy was Theophrastus from Eresos (372-287 B.C.) – „the father of scientific botany”, a great expert of herbs and the author of *Historia Plantarum*, in which he presented not only the therapeutic properties of plants but also the methods of preparing plant poisons.

Still another famous Greek scientist was Dioscorides Pedanius (40-90 A.D.), author of a five-volume work called *De Materia Medica*, describing the effects (including side effects) and methods of preparing about 600 various medicinal herbs and plants he found while travelling with the Roman Army. The modern science confirmed the action of many of them, including chamomile, comfrey, valerian and melissa. The value of his work is unquestionable as *Materia Medica*, also including the classification of plant, animal and mineral poisons, was considered the essential work in this field for another 16 centuries!

With the advances in phytotherapy, the knowledge regarding toxic properties of plants gradually developed and was often verified in practice. One of the victims of plant poisons was Socrates himself (470-399 B.C.) – a Greek philosopher from Athens considered the precursor of western philosophy. According to numerous sources, Socrates was forced to drink an extract of poisonous plants [4], which was his punishment (death punishment) for leading young Athenians astray. Scientists are still deliberating on the kind of plant used to prepare

this lethal drink. According to literature data, the plant used was cowbane (*Cicuta virosa*); however, the analysis of symptoms of poisoning carried out by modern scientists speaks in favour of poison hemlock (*Conium maculatum*). Irrespective of its composition, the drink was undoubtedly effective.

History of phytotherapy – ancient Rome

(c. 750 B.C. - 476 A.D.)

One of the most famous Roman physicians dealing with phytotherapy was Claudius Galen from Pergamon (2nd century A.D.). Galen became famous for creating a new field of knowledge, i.e. galenics, the science concerned with the production of medicines from fresh or dried plants [7]. He described the action and applications of 473 plants used for the preparation of tinctures, extracts, decoctions, and liniments. The methods of preparing ready-made medicines and the Latin terminology related to them are still being used; various galenic preparations can be found in pharmacopeias of many countries.

Another Roman scientist dealing with the characteristics of plant materials of potentially medicinal properties was Pliny the Elder (Gaius Plinius Secundus - 23 – 79 A.D.), who wrote *Naturalis Historia*, which included the descriptions of more than 1000 plants as well as formulae and effects of various plant medicines. Next, there was Apicius (1st century A.D.), attributed with the first Roman cookbook containing more than 500 recipes for meals with herbs. Moreover, Oribasius Pergamenos (4th century A.D.), physician at the court of Gaius Julius Caesar, paid much attention to medicinal plants. He elaborated the major works of other outstanding physicians and wrote “Medical Collections” in 70 volumes.

The achievements of Greek and Roman culture were taken over by the Arabs; among them, such scientists as Avicenna from Bukhara and Az-Zahrawi Abu Al-Kasim (Abulcasis) from

Cordoba are worthy of notice [4]. Moreover, the Arabs introduced some novel methods of drug preparation, i.e. distillation of essential oils, evaporation, and filtration, which significantly accelerated the development of phytotherapy, thus of the entire mankind.

Summary

Knowledge associated with phytotherapy developed and evolved from generation to generation, describing the medical (although not only) applications of plant raw materials in an increasingly accurate and scientific manner. Much is owed to ancient civilisations of Greece and Rome, mainly the collection and categorisation of numerous data on the uses of plants for therapeutic, cosmetic and consumptive purposes as well as their presentation in written form, so eagerly used by next generations and societies.

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