

History and significance of phytotherapy in the human history

1. Phytotherapy in ancient times

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Abstract: Herbalism, i.e. phytotherapy, is one of the oldest forms of medicine practiced by people since the beginning of their existence. Herbs used as infusions, decoctions, tinctures, extracts, poultices or rinses are the major components of all traditional systems of medicine, mainly due to relatively low costs of obtaining raw materials and their natural occurrence. The development of herbal medicine in the ancient Middle East, Egypt, China or India evidences that treatment with herbs is inseparably connected with the history of human mankind.

Key words: history of herbalism, phytotherapy, herbs

Introduction -medicinal plants

Herbs, also called medicinal plants, contain certain chemical compounds which highly affect the metabolic reactions in the human body. The sources of herbal raw materials are predominantly annual and biennial herbaceous plants; they can also be found in trees, shrubs, vegetables, perennials and some fungi.

According to their use, medicinal plants can be divided into therapeutic, seasoning and oil-releasing plants; some of them are likely to have more than one function. Drugs derived from herbal raw materials, which contain active biological substances used in medicine and phytotherapy, are called herbal medicines [1-2].

Noteworthy, the majority of medicinal plants are also poisonous and the difference between therapeutic and toxic doses can be slight [3]. Therefore, the use of herbs for therapeutic purposes requires professional knowledge and consultations with physicians. To choose an appropriate herbal drug, it is important to consider not only its safe dose but also various contraindications in some diseases and physiological conditions [4].

Nowadays, much attention is paid to herbalism, not only in the communities with limited access to conventional medicine but mainly among the individuals who appreciate natural methods of treatment. For ages, the use of herbs has been generating various reminiscences and associations, not only nature- or medicine- related but also cosmetic, culinary and artistic ones [5-6].

The beginnings of herbalism – prehistoric times

Herbs have accompanied people since the dawn of time. Their use, at least initially, was strictly connected with the history of human nutrition. Herbs constituted a relevant part of diet for primitive people, who chose them based on their instinct and observations of their environment. Moreover, they carefully observed the behaviour of animals, both wild and domesticated. The experience gathered from generation to generation shaped their knowledge about the exceptional properties of herbs [7].

To survive, the ancestors of modern-day people had to learn how to differentiate between edible and inedible (in most cases toxic) plants. Thus, it is

safe to conclude that the development of herbalism started with the question how to identify edible plants.

Creativity is one of the basic determinants of humanity; therefore, once their nutritional preferences had been shaped, people also found the use for plants earlier rejected. Moreover, inedible plants and herbs proved to be more useful; toxins contained in them were used to produce poisoned arrows for hunting and tribal fights, which significantly affected the development of civilization. Interestingly, poisoned arrows were used by ancient people all over the world. Over time, the toxic properties of some plants were even more appreciated, i.e. toxic plants were purposefully administrated to enemies [8].

Since prehistoric times, herbs were consumed but also used during hunting and tribal wars. The next step in the development of humanity was the use of herbs for therapeutic and cosmetic purposes.

There is much archeological evidence about the use of medicinal plants already during Paleolithic (about 60 thousand years ago). Furthermore, Paleolithic people took care of beauty. From time immemorial, the ambition of people was to become beautiful. The first mirror used was the water surface, which showed both defects and assets; the former they tried to hide while the latter were highlighted. Some plants were used for the above-mentioned purposes, which is evidenced by the face and body dyes found in ice age caves, which were produced from natural plant dyes [9-10].

Thanks to the use of herbs and other plant raw materials, our distant ancestors combined treatment (herbal medicines) with cosmetics (herbal cosmetics) and nutrition (plants as food, herbal seasonings).

Ancient times

From the earliest times, human beings were surrounded by the rich world of plants and derived

from it everything that could serve as food or some remedy to relieve their sufferings. The first “herbalists” were ancient shepherds. They observed which plants the animals enjoyed most, and which were avoided. The knowledge about the properties of plants derived from the experience gathered concerned the effects of plants on the human body and skills required to use them for therapeutic purposes; thus, people learnt to use specific plants in specific pathological conditions. The better the plants action was known, the more significant the role of herbalism was.

History of herbalism – the Ancient Near East (c. 4000 B.C.)

The first records concerning herbs used by ancient Sumerians date back to c. 4000B.C. and are focused on the significance of herbs in rituals, magic and therapy. Sumerians knew the therapeutic properties of garlic, mint, camomile, plantain, wormwood; moreover, they used swallowwort for eye diseases. Various plant recipes and names were inscribed on numerous clay tablets. For instance, the tablet of Nippur (the capital of the Sumer) contained medicinal agents written by the Sumerian doctor living about 2000B.C.; among them, bark and resins of various trees, plant oils, powdered sillage and sodium chloride (table salt) [11]. In those times, herbs were mainly used as poultices, inhalations and infusions.

The next data on herbalism were found in historic documents of Babylonia and Assyria – about 2000 B.C. The clay tablets imprinted with cuneiform characters, found in the library of Assurbanipal, the king of Assyria, in Nineveh, the capital of Assyria (the 7th century B.C.), informed us that Babylonian doctors had used camomile, henbane, saffron, wormwood, liquorice, plantain, marigold, pear tree, fig, fennel. Most commonly powders and tinctures were prepared. Young shoots of willow and plum, dried and grounded,

were used as the components of poultices and compresses. Moreover, powders of animal and mineral origin were added to powdered plants. Some tablets contain the descriptions of herbs, the diseases they should be used in and modes of their use, preparation and storage. Noteworthy, Assyrians knew that sunlight had had adverse effects on therapeutic properties of herbs; therefore, they dried them in the shadow, which is still recommended.

Many medicinal plants from the regions of present-day Iran and neighbouring countries were described in the works of Avicenna (Ibn Sina, 980-1037), called the most outstanding scientist of Muslim [8].

History of herbalism – Ancient Egypt (c. 3000 B.C.)

Ancient Egyptians had the knowledge about medicinal and poisonous plants. The descriptions of such plants as juniper, wormwood, linseed, dill, caraway, garlic, thyme, field poppy were known in Ancient Egypt more than 3000 years ago. Cultivation of herbs and herbalism were mainly carried out by Egyptian priests. Medicinal plants were cultivated in the vicinity of churches and medicines were prepared in special chambers according to strictly determined recipes.

Some pharaohs were personally involved in acquainting with the medicinal properties of herbs and other herbal plants as well as their toxic effects. One of the “experimenters” was Cleopatra (69-30 B.C.), who tested strychnine (alkaloid occurring in the seeds of nux-vomica and leading to muscle contractions and death by suffocation) and some other poisons on prisoners or poor individuals, allegedly also on herself.

The first mentions of the use of herbs with detailed medical “recipes” were found on the paintings on the Egyptian structures and papyruses [8]. The most well-known source of

the knowledge about herbalism in ancient Egypt is the Ebers Papyrus kept in the library of the Leipzig University, dating back to c. 1550 B.C. and found in Luxor (Egypt) in the winter of 1873-74 by George Ebers (an English archaeologist). The Ebers Papyrus is the oldest well-preserved medico-pharmaceutical document containing information about herbs and minerals. It consists of 110 pages regarding human anatomy and physiology, methods of treatment of diseases and toxicology of individual plants. The Papyrus contains over 800 „recipes” for medicaments containing herbs (and minerals), such as aloes, pepper mint, sweet rush, anise, dill, caraway, linseed, juniper, wormwood, garlic, thyme, fenugreek, mandragora, and marihuana. Many of these plants, e.g. opium, aconite, hemlock, belladonna, jimsonweed or henbane have poisonous properties as well.

Moreover, the papyruses of ancient Egypt contain some remarks regarding the use of herbs for cosmetic purposes and their importance for religious rituals. [10,12]. The use of suitable cosmetic products for the make-up - often after Queen Nefertiti, considered an ideal of beauty – even in those remote times suggested elegance and high social status. The cosmetic products, such as masks, perfumes, colouring cosmetics, and those for massages and baths were produced using both plant ingredients (fenugreek, essential oils, henna, indigo), animal ingredients (milk, honey, eggs) and mineral ingredients (chalk, volcanic soil, clay, marble, mica).

Furthermore, the knowledge about Egyptian herbalism comes from the works of Herodotus (Greece) and Pliny the Elder (Rome).

History of herbalism – Ancient China (c. 2700 B.C.)

One of the oldest recipes about the use of herbs were found in Ancient China. The recipes were included in the Pen-Tsao book, a medical work describing the ways of preparation, storage and

applications of 365 medicines formulated by the Emperor Shen-Nung (Shennong) (c. 2700 B.C.) [8]. The name of this mythical Chinese Caesar is translated as the Divine Farmer, as according to the Chinese tradition, he taught people how to cultivate many plants. Moreover, he laid the essentials for Chinese medicine and trade. It is believed that he personally tested herbs to find out which of them are poisonous. Additionally, the art of tea brewing is also attributed to him.

The written data about herbs and their use in Ancient China were found on clay tablets dating back to c. 3000 B.C., which contain some information about the import of herbs from China to Babylon. Furthermore, the information concerning herbs can be found on prophetic bones from the second century B.C., which describe the use of herbs in various illnesses [8]. According to Chinese people, the nature has the cure for each disease; their natural treatment methods are strictly connected with philosophy and religion (traditional Chinese medicine). Moreover, rhubarb, camphor, ginseng, star anise, ginkgo, opium as well as acupuncture are owed to the Chinese.

The knowledge about herbs and details regarding their most effective use was derived from thousands of trials and errors. Chinese practices of soaking compresses in herbs and placing them over the skin are an example of the evolution of the techniques used. The administration of an agent through the skin enables its entry to the bloodstream without passing through the gastrointestinal system; the transdermal route becomes increasingly popular in modern medicine, which is confirmed by the latest reports [13,14].

History of herbalism – Ancient India (c. 2000 B.C.)

In Ancient India, about 1500 B.C., the Rig Veda book was written, which was the foundation of Ajurveda, traditional Indian medicine. The book

contains the descriptions of herbs and magic spells connected with them as well as the methods of their applications for therapeutic purposes. Many herbs and minerals used in Ajurveda were described by Indian herbalists of the first millennium B.C., such as Charaka and Susruta [8].

Caraway, pepper, cardamom, cloves and ginger came to Europe from India and are appreciated not only as spices but also components of therapeutic and cosmetic products.

Summary

The medicinal, cosmetic and toxic properties of many plants discovered and described in the ancient countries of the Near East, Egypt, China and India were essential for further studies, experiments and observations. The information gathered by the civilizations mentioned above were used by scientists from Ancient Greece and Rome, who improved the therapeutic recipes and tried to systematise the knowledge about broadly understood herbalism.

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