

The History of Pharmacy in the Arab World: Background and Highlights

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Growing interest in the history of pharmacy was the result of structural changes in the industry of the most developed of the Arab countries, including Morocco. Progress in the pharmaceutical field was possible due to the formation of high technology, based on the powerful development of Physics-Chemical Biology. However, this process has been extraordinary, even in comparison with the previous process before the appearance of high technology in the field of electronics. Funds, invested in basic and applied research, recouped much faster and on a larger scale.

Many researchers now identify the history of pharmacy and the history of chemistry and biology, but in the history of pharmacy there is a number of points, which fundamentally distinguish it from the history of chemistry. These moments are more related to the social history of pharmacy (as a sphere of activity) than with it as a science (as a system of knowledge). However, they do not explain the basis for the latter, in some cases dealing with the history of chemistry, in some others – with the history of medicine or biology.

Pharmacy (from «pharma» (Latin) – a medicine) is the science of drugs. The word «Apothecary» is of Greek origin. Its original meaning is specialized or general store or warehouse. However, over time the semantics of the word changed, and now in all the languages it represents health care facility, a pharmacy in the modern sense.

Pharmacy appeared in the old days, when people began to look for a cure for their ailments. The first mention of pharmacy (apotheca) as a place of storage of medicines we find in the writings of Hippocrates (400 BC). Claudius Gallen (131-207 AD) says about the drugstore (officina) as a place not only storage, but also the manufacture of medicinal potions. The first pharmacy in Europe appeared in 1100 BC in monasteries. Even at that time Arabic pharmaceutical school that included hundreds of different medicines and methods of their use was very popular, and thus

it was studied extensively by doctors and students at universities in Italy and France. In pharmacies, schools throughout the Arab followers were offered up in accordance with Moorish and Persian manuscripts of every kind, type and taste, e.i. «aromataries», «confectionaries» and «stationaries», such as smelling salts, pills and powders. In the XV century BC the term for denoting a pharmacist specialist, appears first (the Latin word «provisor»), indicating the important role of the pharmacist in the treatment process. From that time on a doctor diagnoses, determines disease and gives the inscription to the pharmacist who with the help of a medication corrects its course and further development.

A characteristic feature of the pharmacy from the inception at all times and in all countries was its special position among other related industries. Its establishment as a kind of separate entity, its scope, goals, objectives, rules for the qualification of pharmacists, storage and dispensing, their prices – all of that has been regulated by special statutes having the force of law. Indeed, among the drugs there were toxic substances requiring heightened caution – both at their storage and tempering .

Arab Pharmacy occupies a special place in the history of pharmacy. Arabs began military campaigns in the 7th century AD, conquered most cultural countries from the Indus to the Atlantic Ocean (Spain), including countries such as Egypt, Persia, India, etc. They gained access to the culture of the conquered peoples and created an extensive literature in translation.

Largest doctors of the time, who wrote in Arabic, were Persians - Al-Razi, Ibn Sina (Avicenna) and many others. Avicenna was a broadly educated person. His five-volume «Canon of Medicine» covers the anatomy, physiology, pathology, therapy, pharmacy, hygiene, etc. Two volumes contain descriptions of simple and complex medicines. Total Avicenna's inheritance lists seven hundred eighty-five herbal medicines along with the ones of animal and mineral origin, with a description of how their preparation and application.

The Academy of Sciences in Baghdad played great importance for the development of the branch, bringing together 6000 scientists and students studying

various disciplines, and among them there were mostly doctors. Here the first pharmacy was established in 754. Arab doctors conducted experiments with poisons and antidotes on criminals. Although these first experiments were started by the king Matridat Eupashor in I BC, as a result, he invented a complex medication – teriak. Thus, the caliph Motavekkim subjected their guests bitten by poisonous snakes during feasts, and then cured them with a teriak. Belief in teriak was gone through many centuries, but now it has been clear it was based on the idea that the more medicines would be introduced, the greater the effect would be.

Teriak Nuremberg Pharmacopoeia, for example, consisted of 65 ingredients. According to the rules in the drugstore statute (XVI), Teriak must have been prepared publicly, in a festive atmosphere. Every part of it was a subject to public inspection by the jury, the pharmacist had to indicate the date of manufacture, composition of medicines, etc. Mention of teriake occurs in much later pharmacopoeias – in France (1818) and Germany (1872).

In the 12th century, when there were only two universities in Western Europe 70 public libraries and 17 high schools functioned in Spain, all of them opened by Arabs. Pharmacy is obliged to Arabs for the existence of many names: alcohol and syrup are words of Arabic origin. Primacy belongs to the Arabs also in the creation of Pharmacopoeia – Arabic pharmacopoeia (karabadini) is now translated into many languages. Arabs introduced into use different medicines of so-called gentle action (syrups, rose water and other scented waters), flavoring compositions etc. The Arabs did not like drastic means of treatment and instead invented a number of laxatives (e.g. sienna), and added to the potent orris root and lemon juice, which reduced their effect. One of the main lessons of Arab Pharmacists was trading fragrant oils and sandalwood. Pharmacies were under special patronage of the state, the government took care of cheapness and purity of drugs. By the 16th century the Arabs had in service more than 2600 drugs, including 1 400 of vegetable origin.

Traditions of medieval pharmacy, as well as production of medicines in the Arab countries of the later period and today are quite popular and progressive

industry and the sphere of knowledge in the Middle East. For example, in Morocco great pharmaceutical market has developed, and there are thousands of pharmacies (of about 11-12 thousand in total throughout the country), despite the fact that the territory of it is rather small. It is noteworthy that all pharmacies in Morocco are private. Competition in this regard is very high, and therefore, only the best suppliers survive in the pharmaceutical business.

Medicine is also located at a fairly high level of development: hospitals, both private and public, are equipped with modern facilities. In addition, many professionals working in the medical field have been trained in Europe and are of the highest levels of knowledge. However, this system requires constant attention and reform, not only to improve the quality of health care, the shortage of qualified staff or improving hospital infrastructure, but also to increase the moral standards in the health system. These are the priorities of the course of reforms undertaken by the Government of the Kingdom of Morocco in 2008. Much has been done to achieve these goals, a lot of work hasn't been accomplished yet, but today residents look with hope to the future in anticipation of positive change.

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On the Issue of the Healthcare in Ecuador

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Not all the countries in the Latin American region have effective healthcare system, which depends on a number of economic, political, cultural and