

The History of Pharmacopeias in Iran (Persia): From Antiquity to Current Era

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The history of Pharmacy in Iran (Persia) dates back to antiquity. Archeological evidences show sing advanced pharmaceutical tools at least from 7000 years ago (1). Although, it is believed that the separation of pharmacy from medicine was accrued in 13th century AD by Frederick II of Hohenstaufen (the king of Germany and Sicily) in the west (2), pharmacy was as an individual branch of medical sciences in Persian Medicine (PM) (3). There were a group of physicians called as *urvarō baēšaza* in Avestan language (ancient Persian language) means the physician works with plants or pharmacists (4). Also, we accessed to the complicated pharmaceutical formulations like *prahaoma* syrup (made of *haoma* plant; *Efedra vulgaris* L. as the main ingredient) which is mentioned as the first stimulant antidepressant preparations in the history (5). Later, there were pharmacies the medical centers and hospitals in Sassanid era (224-637AD) and also in Islamic era. *Yuhanna ibn Masawaih* (known as *Mesue* in Latin; circa 777–857), the famous court physician in Abbasid caliphate in Baghdad was the son of a Persian pharmacist in Jondishapour, named as Masawaih (6).

Also, there were too many pharmaceutical books including which ones for botanicals, simple medicines, pharmaceuticals (compound medicines) as well as treatise for specific pharmaceutical

issues (3,7). *Qarabadins* were a kind of pharmaceutical books which was the first generation of pharmacopeias in the history (8,9). These books were a registry of drugs and preparations containing dosage forms, preparation procedures, considerations, dose of administrations, shelf life, etc (10,11). There were more than hundred *Qarabadins* written by Persian physicians and pharmacists from 9th to 18th century AD. Drugs were sorted in variously in each ones of these books. They were based on dosage forms, routs of administration, main ingredients, etc. Also, some ones were as poetry. They also affected on developing current pharmacopeias in the west. After replacing traditional medicine by modern medicine in 19th century AD in Iran, the next generation of the pharmacopeias was found in Iran based on western pharmacopeias both for general drugs and herbal and natural ones. In follows, some of the main *Qarabadins* and pharmacopeias would be considered briefly.

Qarabadin of Shapur Sahl: The first remained and reported pharmacopeia in the history

This *Qarabadin* was written by Shapour Sahl, Persian pharmacist and the president of Jondishapour University and hospital in 869AD (9). Jondishapour was the first teaching hospital in the history of medicine (12); located in south west of Persia (13). Jondishapour city was founded by Shapour I, the second king of Sassanid dynasty in the third century AD and its academy and hospital were established by Shapour II in the early fourth century AD. It was as the main medical centers in the ancient and medieval world until 10th century AD (12,14).

The *Qarabadin of Shapur Sahl* (fig. 1) was considered as the first reported and remained *Qarabadin* (pharmacopeia) in the history. It contained in 25 chapters and was written in Arabic as the *Lingua Franca* of that time (15). Of course, it is mentioned in the preface of the book that it

was an Arabic translation of the original book in Syriac. Syriac language was as a languages used in Jondishapur.

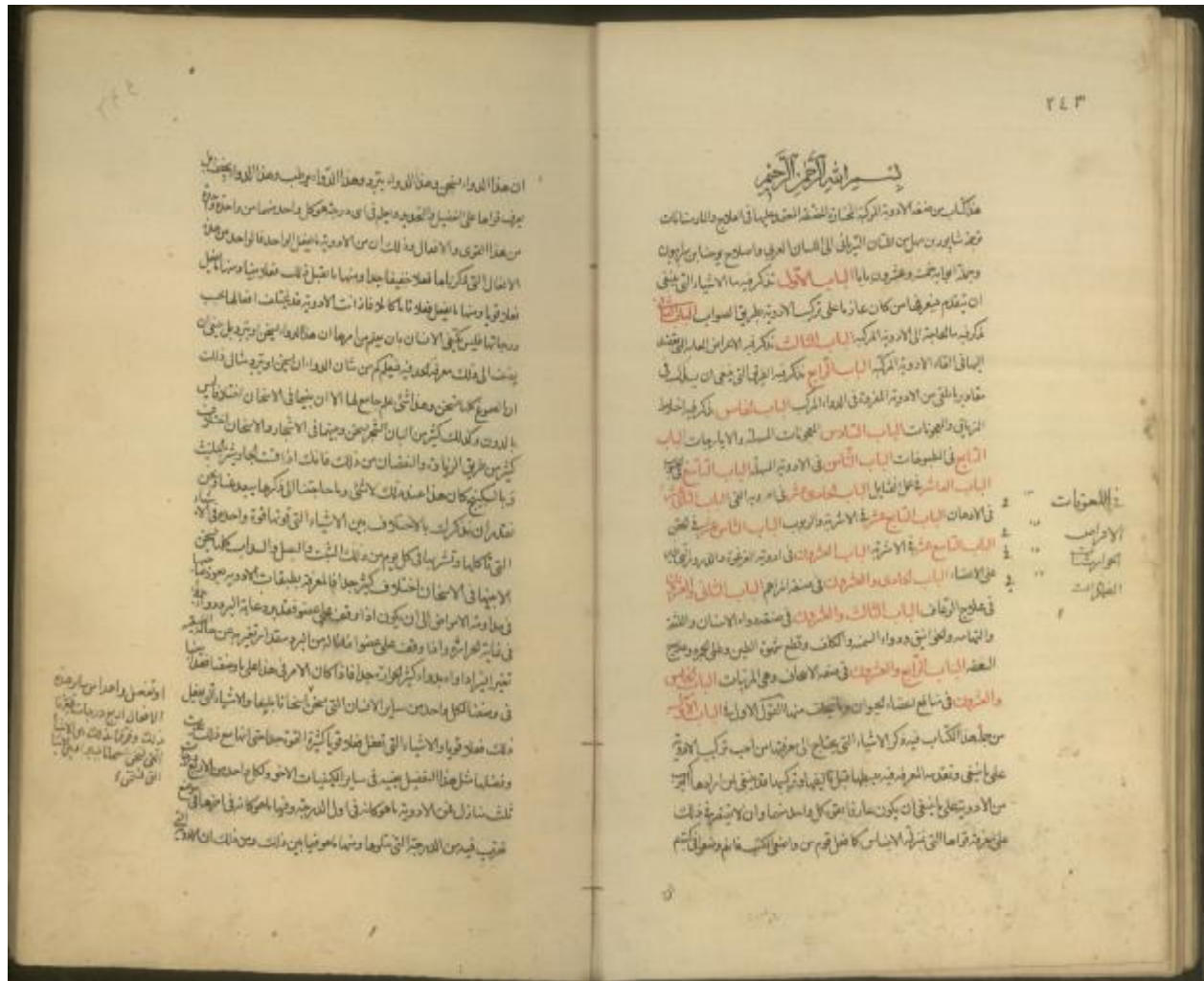


Fig. 1. The first page of *Qarabadin* of *Shapur Sahl*

Qarabadin Kabir: The largest Persian Qarabadin

This pharmacopeia (fig. 2) is the largest pharmaceutical manuscript written in Persian (1772 AD) by Seyyed Mohammad Hossein Aghili Khorasani Shirazi, one of the most outstanding Persian physicians. This pharmacopeia consists of twenty chapters on basics of pharmacy and pharmaceutical sciences which are gathered in the first part of the book. In this part, many basics

related to pharmaceutical sciences have been described. Of these items, reasons of formulary, shelf lives, calculating the doses of administration, nature and temperament of medicaments, medical terminologies and main diseases can be found. Subsequently, twenty eight sections or chapters are organized in the second part of the book which are managed alphabetically and based on the active components (16, 17).

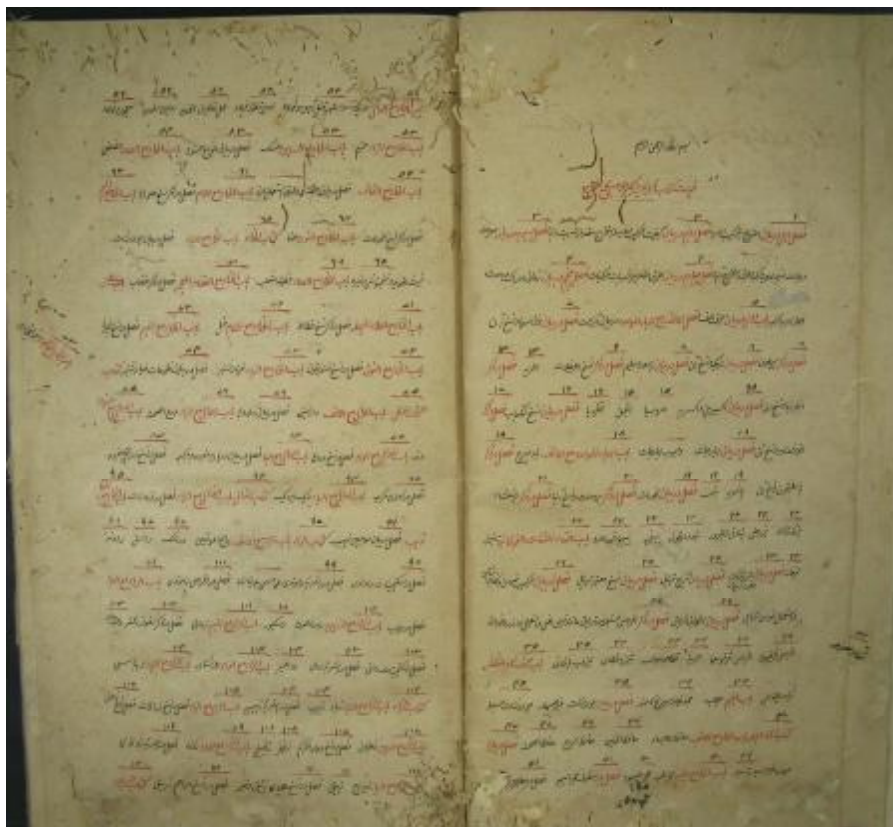


Fig. 2. The page of table of content of *Qarabadin Kabir*

***Qarabadin Shafaei*: The Persian pharmacopeia affected western pharmacopeias in 16th century**

This book was written by a Persian pharmacist namely Muzaffar ibn Muhammad Hussaini Shafaei (died 1555AD) (18). This book has an important role in progress of current

pharmacopeias. The Carmelite Ange de Saint Joseph (1636-1697AD), who lived in Persia (city of Isfahan) between 1664-1678 (19) translated *Qarabadin Shafaei* into Latin and published it as *Pharmacopeia Persica* (fig. 3) in Paris in 1681 (20, 21). This book introduced the structure of Persian pharmacopeias to western pharmacy and can be considered as the main important influential books affected on modern pharmacopeias.



Fig. 3. Front page of *Pharmacopoea Persica*, published in Paris in 1681

Qarabadin Manzoom: A poetry pharmacopeia

Qarabadin Manzoom fi Tibb or Compound Formulary in Verse is one of the interesting but neglected pharmacopoeias written in Persian as a poem. The author of this book is unknown, but

seemingly, only one copy of this handwritten manuscript authored in the (9th AH)/ (15th AD) century is remained and kept at the Turkish National Library. The author of *Qarabadin Manzoom* composed this interesting pharmacopeia in a simple and fluent language. Pattern of poems are clear, short and brief. The book encompasses twenty one chapters based on drug formulations and dosage forms. This book, similar to other Islamic medical and pharmaceutical textbooks, has been begun with gratitude and praise of God and the Holy Prophet, Mohammad. Chapters of this books include rubs and drinks (*rub* and *sharbat*), Itrifal and confection (*Atrifal* and *Ma'jun*), enlivening compounds (*Mofarreh*), antidotes (*Teriaq*), Ayarij and pill (*Ayarij* and *Hubbub*), cooked agents (*Matbookh*), suppositories and vaginal or rectal enemas (*Shyaf* and *Hoghnah*), digestives (*Jawarish*), tablets (*Qurs*), oils (*Dohn*), licking dosage forms (*Laooq*), emetic agents (*Moqee*), nasal dosage forms (*Saoot*, *Qotoor* and *Otoos*), dusting powders and dressing agents (*Zaroor* and *Marham*), ophthalmic (*Kohl* or eye powder) and topical dosage forms (*Tala*, *Komad* and *Zomad*), jams (*Morabba*), gargles (*Qaraqer*), topical decoctions (*Notool*), hair preparations and finally dental powders (*Sanoon*), respectively. It is easier to remember information given in a book written in verse. In this way, poetry is used as a means of education. Furthermore, this type of literature is a literary art, as well as a pharmaceutical manuscript (22).

Qarabadin Salehi: One of the last Qarabadins

Qarabadin Salehi or *Amal Saleh* (fig. 4) was written by *Mohammad Saleh Ghaeni Heravi* in Persian Language in 1766AD. His origin was for the city of Ghaen, in the south of Khorasan province (north east of Iran). But, he was born in Harat city and lived in Bokhara (8, 23). It is noticed as one of the most well structured and well written Qarabadins ever. This book contained

more than 200 formularies sorted alphabetically. It is mentioned as the last main Persian pharmacopeia before replacing Persian medicine as the core medical system of Iran by modern medicine (8).



Fig. 4. The first page of *Qarabadin Salehi*

Modern pharmacopeia in Iran

By replacing Persian medicine by current and modern medicine, new pharmacy was started to teach and practice in Iran. But, writing Iranian modern pharmacopeias was started to write too late. The first volume of Iranian Pharmacopeia was published under supervision of Iranian

ministry of health in 2004. Dr. Morteza Rafiei Tehrani was the Editor of the book. During later years, 5 other volumes of this pharmacopeia were published. The last (6th) volume was published in 2015.

Conclusion

Pharmacy has a long history in Persian medicine (PM). It was well developed in Persian from antiquity and there were various comprehensive pharmacopeias written by Persian pharmacists and physicians. The oldest remained pharmacopeia is credited for a Persian scholar, Shapour Sahl. It shows the importance of pharmacy in Persian medicine during history and clarified a part of history of pharmacopeias in the world.

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