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The First Military and Non-Official Pharmacopoeias of the Ottoman Empire*

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Abstract

The first official pharmacopoeia of the Ottoman period was written in 1844 under the title of Pharmacopée Militaire Ottomane (Pharmacopoea Castrensis Otomana) by Austrian Dr. Charles Ambrosie Bernard who was the founder of the first school of pharmacy at that time. This pharmacopoeia was written in French based on 1841 Pharmacopoea Castrensis Austriaca and consists of 161 pages. In this pharmacopoeia drug names were given in Turkish, Italian and Latin as well as French. Also, in this pharmacopoeia medicinal plants were given in alphabetical order, simple and mixed drugs preparing methods were mentioned and especially focused on pastes but reagents and control methods weren't mentioned. This book was specifically designed for military hospitals and pharmacies, so, it was not given much of an interest by Istanbul pharmacists.

The other codex Düstur-ül Edviye (Drugs Law) which was the translation of 1866 French Codex in Turkish by Major Mr. Huseyin Sabri was published in 1874. This codex was printed in Tıbbiye-i řahane printing house and consisted of 73 chapters and 508 pages. This book replaced the codex which was written by Dr. Bernard and has become a guide for Istanbul pharmacists for long time.

In this study, both pharmacopoeias are examined and various aspects of them are discussed.

Keywords: Pharmacopée militaire ottomane, Dr. Charles Ambrosie Bernard, Düstur-ül edviye, Major Mr. Huseyin Sabri.

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Introduction

Pharmacopoeia is defined as “*official books which contains qualitative and quantitative analysis methods of active substances and excipients used in the manufacture of pharmaceuticals and legal and scientific national and international rules and procedures that must be followed*” in the dictionary of Turkish Language Institution (1).

Pharmacopoeia has passed into Syriac as *Grafazin*, Ancient Greek as *Graphadion*, Arabic as *Krafazin*, Turkish as *Krabadin* or *Akrabadin* (2).

In 1914, with the leadership of *Pharm. Ethem Pertev* and *Pharm. Hasan Rauf* a Turkish Codex was prepared but this work has not been published. The reason of this had been showed as codex is far from a consistency and integrity in itself due to taken articles from various pharmacopoeias (3).

Two pharmacopoeia published during the Ottoman era are *Ottoman Military Pharmacopoeia* (Pharmacopoeia until Castrensis Otomana - Pharmacopea Ottomana Militaire) and *Düstur-ül Edviye* (4).

Pharmacopoeia Castrensis Otomana (Pharmacopee Militaire Ottomane)

Pharmacopoeia Castrensis Otomana (Pharmacopee Militaire Ottomane), Turkey's first printed codex, was prepared by **Dr. Charles Ambroise Bernard** and printed in Istanbul Beyoğlu **Henri Cayol** printing house in 1844 (2-9). In this pharmacopoeia, which had been written basis on 1841 *Pharmacopoeia Castrensis Austriaca*, military needs had been taken into consideration (10-12).

This book, 18x23cm size, has 164 pages and the text portion is in Latin and French, was prepared to meet Ottoman military hospitals' pharmaceutical needs by quality, cheap and easy way through a "Pharmacie Centrale" (10-13). Following the preface written in Italian, in this codex photos of drugs used in treatment also information about used parts of plants were given and the names of drugs were listed in alphabetical order in Turkish, French, Italian and Latin (2, 5, 9, 14). For example; Mel rosarum (Lat.) –

Miele rosato (It.) – Miel Rrosat (Fr.) – Gülbali (Tr.). There are 149 materials and 156 drugs in Bernard's Pharmacopoeia; the distribution of them is given in Table 1 (15).

This codex consists of four parts in general (2, 13, 14):

1- *Drogues simples (Simple medications, p. 1-21)*: In this part of codex the drugs are also discussed systematically as pharmaceutically and pharmaceutical portions of drugs are indicated.

2- *Médicaments préparés et composés (Prepared and compounded medications, p. 22-94)*: In this part of codex drugs' pharmaceutical names, chemical names and also synonyms were given.

3- *Formulaire à l'usage des hôpitaux militaires (Formulary for military hospital's usage, p. 95-126)*: In this part of codex there are information about decoctions, infusions, emulsions, solutions, mixtures and elixirs, gargles, eye drops, enemas, ointments, pills etc.

4- *Tables (Tables, p.127-139)*:

- a. Melting rate of drugs in 1 ounce of water table,
- b. Special weights table,
- c. The most necessary reagents table.

In addition, two lists have been added to the last part of the codex. One of the list shows the needed medicines for health service of an association 3500 people and average amount of them and the second list includes some medical needs that can be obtained in the neighborhood (3, 5, 7, 9).

Ottomanee Pharmacopee Militaire in which okka (1282 grams) and dirhams (3,207 grams) used as a weight measure (2, 5) is considered the first published codex in the Ottoman period (2). This codex had no effect on the Ottoman pharmacy except for the use of military pharmacies for a while (9). This is also accepted by Kurt Ganzinger (11). A

copy of this codex ever been encountered in any Ottoman pharmacy or hospital so it is again proves this situation.

Dr. Charles Ambroise Bernard

Dr. Charles Ambroise Bernard was born in 1808 in Paris, studied medicine and surgery at Josephinum Military Medical Academy in Vienna (15). He had been brought as head teacher to the *Mekteb-i Tıbbiye-i Adliye-i Şahane* (Ecole Imperiale de Medecine de Galata-Serai) in 1838 by Sultan II. Mahmut (14). Dr. C. A. Bernard died in 1844 in Istanbul.

Dr. C.A. Bernard started pharmacy education in our country by opening a “Pharmacy Class” in Mekteb-i Tıbbiye-i Adliye-i Şahane (3).

In Mekteb-i Tıbbiye by Dr. C.A. Bernard's efforts dissection of the dead was started, a library was established, a herb garden was made and gardeners and experts brought from foreign countries for this garden, chemistry laboratories were established and textbooks were written (3, 11). Bernard was the founder of modern botanical education in our country and the author of the first Turkish Military Pharmacopoeia (3).

Prof.Dr. C.A. Bernard published four book including *The Plants Used in Medicine* (Element Medicine at Imperial de Botanique de Galata Serai Ei'Ecole), *Bursa Spas* (Les Bains de Brousse, the Bithnine), *Pharmacopoeia* (Pharmacopee Ottomane Militaire) and *Percussion Book* (Precis de Sound Percussion Et D'anscultation in a l'usage Laçons) in French during his time in Istanbul (15, 16). These works not only have great importance in their fields, but also they have great significance because of being first written works in Turkey in these areas.

Düstur-ül Edviye

In the Draft Law No. (1/811) Sıhhiye ve Muvazenei Maliye Encümeni Mazbatası (Equilibrium of Health and Finance Council Mandate) from the Premiership about Düstur-ül Edviye Commission why a Turkish Düstur-ül Edviye is needed was mentioned. According to this Mandate the lack of a Turkish Düstur-ül Edviye (Drugs Act - Pharmaceutical Preparation Rules) in Ottoman period remains a challenge for people who engage in public health and the treatment and makes inspection and follow-up of pharmacies and people who trade in pharmaceuticals difficult. Again, by this time, pharmaceuticals and medical products income to customs were taken into our country in accordance with the Codex that was in force in countries of origin and after the introduction of these products to the country exposure to adulteration could not been prevented (17).

That was indicated that if there is a Turkish Düstur-ül Edviye and placed on a obligation to comply with it, move through customs procedures and also monitoring and inspection of pharmaceutical warehouses and pharmacies will be easy and no matter which country or factory good, public can find and take medicines which have always same treatment property for their treatment end health. At the same time it was stated that Turkish Düstur-ül Edviye will help physicians about composition of the pharmaceuticals (17). For these reasons, a commission of Düstur-ül Edviye decided to establish.

Ottoman pharmacists must comply with 1866 French Pharmacopoeia (Pharmacopée Française) about norms and dosages of drugs (11). This pharmacopoeia was translated in Turkish by Major Huseyin Sabri in 1874 with the name of “Düstur-ül Edviye” due to the difficulty of understanding. This work was printed in Mekteb-i Tıbbiye-i Şahane Printing House on March 16, 1874 (27 Muharram 1291) and consists of 73 chapters and 508 pages (5, 6). A copy of this work is in Istanbul University, Faculty of Medicine, History of Medicine Institute Library D.344 (2).

Preface of this work contains information about phases of French Codex in history and the necessity of a codex (9). In the first part of the book the old and new decimal sizes

and measurement scales were compared, conversion charts and information about herbal, animal and chemical substances used in the preparation of the medicine were given. In the second part of book, under the 75 different titles 848 drug composition and preparation methods were described (18).

In *Düstur-ül Edviye* grams and the multiples of grams had been used as a measure of weight (2).

Because of education in Turkish started in 1870 in *Mekteb-i Tıbbiye-i Şahane*, this book had big importance and had acted as Turkish pharmacists' handbook a long time (5, 10). This codex substituted the Dr. Bernard's Codex and until II. Constitutional of Monarchy (II.Meşrutiyet-1908) was used as pharmacists apply book (2).

Major Mr. Huseyin Sabri

Major Huseyin Sabri graduated from the School of Military Medical School, worked in the army, ascended to the rank of the colonel, and was director of *Mekteb-i Tıbbiye-i Mülkiye* and *Fenn-i ispençiyarî* (pharmaceutical science) teacher (3, 9). In 1870, he published a book in Istanbul with the title of "*Fenn-i ispençiyarî*" which was the first pharmacy profession book in Turkish (3, 19).

Conclusion

These kinds of books are official books printed by the state or under the supervision of the state to standardize practices related to drugs in the country. Codexes mentioned in this study were played a significant role in the development of the pharmacy profession standards in that period. With the establishment of the Republic of Turkey "codex" issue taken up again and by the efforts of this period's Minister of Health and Social Welfare Dr. Refik Saydam's "*Turkish Codex Law*" No. 767 dated 03.03.1926 was adopted by the *Grand National Assembly of Turkey*. Still *Codex Committee* is established and the new codexes are created in accordance with this law.

Footnotes

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Appendixs

Table 1: The distribution of materials in Bernard's Pharmacopoeia

Type of Material	Number	Percentage
Animal drugs	14	%9
Medicinal Plants /drugs	104/111	%71.2
Minerals/Metals	23	%14.7
Various Chemical Materials	8	%5.1