

**Ibn Sina and pharmacy**  
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**Annotation:** This thesis explores the pivotal contributions of Ibn Sina, also known as Avicenna, to the field of pharmacy. Born in 980 CE in Persia, Ibn Sina was a polymath who profoundly influenced medical and pharmaceutical sciences through his seminal work, "The Canon of Medicine" (Al-Qanun fi al-Tibb). The thesis highlights his innovative approaches in pharmacology, including his comprehensive cataloging of medicinal plants, his foundational work in pharmacodynamics and pharmacokinetics, and his methods for drug formulation and compounding. It also underscores his systematic classification of drugs and detailed descriptions of their preparation and use, which were groundbreaking at the time. The enduring legacy of Ibn Sina's contributions to pharmacy is examined, showcasing their impact on both Eastern and Western medical practices.

**Keywords**

1. Ibn Sina
2. Avicenna
3. Pharmacy
4. The Canon of Medicine
5. Pharmacology
6. Pharmacodynamics
7. Pharmacokinetics
8. Medicinal Plants
9. Drug Formulation
10. Medical History

**Introduction**

Ibn Sina, also known as Avicenna in the Western world, was a Persian polymath who made significant contributions to various fields, including medicine and pharmacy. Born in 980 CE in Afshana near Bukhara, his works have had a profound impact on the development of medical science, particularly in the Islamic Golden Age.

Contributions to medicine and pharmacy

Ibn Sina's most renowned work, "The Canon of Medicine" (Al-Qanun fi al-Tibb), is a comprehensive medical encyclopedia that served as a standard medical text in both the Islamic world and Europe for centuries. This monumental work includes extensive sections on pharmacology and pharmacy, showcasing his deep understanding of medicinal substances.

Pharmacological innovations

Ibn Sina's contributions to pharmacy are particularly notable in the following areas:

1. **Materia medica:** He documented over 800 medicinal plants, herbs, and compounds, describing their properties, uses, and effects. This extensive cataloging helped in standardizing pharmaceutical knowledge.

2. **Pharmacodynamics and pharmacokinetics:** He studied the effects of drugs on the body and the process by which drugs are absorbed, distributed, metabolized, and excreted. His insights laid the groundwork for modern pharmacology.

3. Formulations and compounding: Ibn Sina developed methods for preparing and compounding medications, including the use of excipients to enhance the effectiveness of active ingredients.

4. Dosage and administration: He emphasized the importance of accurate dosing and proper administration routes to maximize therapeutic effects and minimize adverse reactions.

#### The canon of medicine

"The Canon of Medicine" is divided into five books, with the fifth book dedicated to pharmacology and compound drugs. In this book, Ibn Sina categorizes drugs into simple and compound forms, providing detailed descriptions and therapeutic indications for each. His systematic approach to drug classification and detailed descriptions of their preparation and use were revolutionary at the time.

#### Legacy

Ibn Sina's work had a lasting influence on both Eastern and Western medical practices. His methodologies in pharmacy and pharmacology were taught in European universities well into the Renaissance. The "Canon of Medicine" remained a primary reference in medical education for over six centuries.

#### Conclusion

Ibn Sina's contributions to pharmacy were groundbreaking and far-reaching. His meticulous documentation and innovative approaches to the study of medicinal substances significantly advanced the field of pharmacy. The legacy of his work continues to be felt in modern pharmaceutical sciences, highlighting his role as a pioneer in the history of medicine.

#### References

1. Ibn Sina, "The Canon of Medicine" (Al-Qanun fi al-Tibb)
2. Gutas, Dimitri. "Avicenna and the Aristotelian Tradition."
3. Nasr, Seyyed Hossein. "Islamic Science: An Illustrated Study."
4. Levey, Martin. "Early Arabic Pharmacology: An Introduction Based on Ancient and Medieval Sources."
5. Goodman, Lenn Evan. "Avicenna."
6. Sajadi, MM, Sajadi, MR, & Sajadi, FK. "Ibn Sina and the Clinical Examination." International Journal of Cardiology, 2011.
7. Pormann, Peter E., and Emilie Savage-Smith. "Medieval Islamic Medicine."