

THE METHODOLOGY OF USING THE MEDICAL HERITAGE OF ABU ALI IBN SINO IN THE DEVELOPMENT OF THE SCIENCE OF BIOPHARMACY

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Abstract. *This article discusses the history of the emergence of biopharmaceutics as a science. Also, opinions were expressed about the rich medical legacy left to us by Abu Ali Ibn Sina in the development of biopharmacy and the technologies of its use in improving the teaching methodology of biopharmacy.*

Keywords: *pharmacy, biopharmacy, medicine, technology, drugs, pharmacology, scientists, teaching methodology, modern educational technologies.*

Introduction. Ibn Sina had a great impact on the development of medicine and pharmacy in the world today. 10 centuries ago, when Ibn Sina lived and worked, there was no independent pharmaceutical service, it had just separated from medicine and began to form independently. Later, the composition of recipes and the complexity of their preparation technology, as well as new types of complex drugs, became difficult for judges (or doctors) to perform alone. As a result, it was necessary to train some special person from among the medical staff to prepare drugs. Thus, the specialty of pharmaceutical (pharmacologist) appeared. Ibn Sina during his time, pharmacy was not separated as an independent science. Ibn Sina expressed his thoughts on pharmaceutical issues in some books of his great work, "The Laws of Medicine". The main medicines of famous judges and healers in all periods were, first of all, the products of medicinal plants and some of their parts. In second place were animals and their products, followed by mineral substances, about the quality of the product or the preparation of medicines from them, etc. These problems were made by judges and doctors based on their vast experience and observations. Determining the quality of medicinal plant products is the field of pharmacognostic analysis, and preparation of correct and high-quality drugs from them is the field of drug technology. Both of these sciences are pharmaceutical sciences, which separated from other medical sciences in the 10th-11th centuries. The high quality of medicinal plant products depends on many and various factors: timely collection, drying, proper storage of medicinal products, etc. If these rules are strictly followed, then the medicinal product will not lose its healing properties when stored for a long time.

Research Methodology. Ibn Sina knew well that the quality of medicinal plant products begins with their timely collection, therefore Ibn Sina always attached great importance to this. He taught his students the art of making medicine and required them to strictly follow all the rules in making medicine.

Ibn Sina's recommendations:

- "Leaves. The nose should be picked when it is full, without changing color and without fading and without spilling";
- "Flowers. They should be taken before they fully open, wither and spill;
- "Fruits. They must be cut off before they are finished and ready to be poured";

- "Seeds. They should be harvested when their bodies are firm and ripe";
- "Roots." They should be removed when the plant is close to shedding its leaves";
- "As for taking the whole plant, it should be taken before it seeds and before it loses its moisture." Ibn Sina: "The medicine that is chosen correctly at the time of cutting will be strong."

Ibn Sina said that when Abu Jahl's watermelon is cut, its flesh should not be removed quickly, but should be left as it is, otherwise the effect will be weakened. Don't cut it off until it's completely blue and starts to turn yellow. Because if it is not done like this, it will be evil harmful and deadly. Ibn Sina's recommendation of 10 centuries ago remains almost unchanged even today. All modern manuals of pharmacognosy (the science of medicinal plants) in these same documents recommend the collection of medicinal products almost unchanged. The mentioned periods were recommended by Ibn Sina based on his extensive experience and observations. In modern pharmacognosy, these periods are emphasized as the exact time of biologically active substances. Fruit plucked outdoors is better than plucked in wet weather or close to rain. Ibn Sina knew well that the quality of medicinal plant products begins with their timely collection, therefore Ibn Sina always attached great importance to this. He taught his students the art of making medicine and required them to strictly follow all the rules in making medicine.

Conclusion. From what has been analyzed above from our research analysis, the following conclusions can be drawn. The development of the field will be strengthened by ancient research projects such as Ibn Sina. The development depends on ancient practices and experience which mostly relied on alternative medicine and natural science and knowledge of the people. Ibn Sina's facts about the preparation of drug forms (types) are no less important than the opinions expressed in the field of pharmacognosy, and in turn, the second science of pharmacy is the basis and motivation for the formation and development of drug technology in the future. or slowly exiting the body, resulting in a greater effect on the body), the idea of creating a form of medicine that has an effect directed at a specific organ (intended target organ) has been attracting the minds of scientists for a long time. In his medical career, Ibn Sina was concerned with the delivery of medicines to the correct diseased organ (target organ). To do this, he added other simple drugs to his complex drugs and used the method of transferring the necessary drug into the body. Ibn Sina wrote about this: "Sometimes drugs are added in order to transfer and lead other drugs. For example, saffron is added to red rose, camphor, and (sea) coral to convey (the effect) to the heart" ("Laws of Medicine, Book II, p. 39) "Sometimes we want the drug to be slightly retained in order to have a strong effect on the passageways, but the drug is absorbed, so we mix it with a retainer (drug). For example, many (decongestants) drugs pass through the liver quickly, and often need to be retained in the liver, in which case we mix them with drugs that push the liver to the opposite side: for example, radish seed medicine in the stomach pushes it towards the mouth, as a result of which it seems to hesitate (pause) until the benefit of the medicine is transferred to the liver, and then it passes. ("The Laws of Medicine" p. 11).

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