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**CONFERENCE ARTICLE**

**Ethnobotanical Characteristics of the Use of Poisonous Plants and Safety Issues in the Jizzakh Region**

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**ABSTRACT**

This thesis analyzes the ethnobotanical characteristics of poisonous plants found in the Jizzakh region, their patterns of use by the local population, and the risks associated with improper utilization. The results of the study indicate that, although certain poisonous plants are widely used in traditional medicine, their unscientific and improper application may pose serious risks to human health.

**Keywords:** Poisonous plants, ethnobotany, traditional medicine, Jizzakh region, biologically active compounds, toxicity.

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**INTRODUCTION**

In the contemporary period, the rational use of natural resources and the conservation of biodiversity are regarded as priority areas within the system of global environmental challenges. This issue is also explicitly emphasized in documents related to biodiversity conservation under the auspices of the United Nations, where the necessity of sustainable use of plant resources is highlighted. Plants, particularly medicinal and poisonous species, constitute an important natural source for meeting the pharmacological needs of humanity [17].

Poisonous plants contain high concentrations of biologically active compounds such as alkaloids, glycosides, saponins, and others. These compounds are characterized by their ability to produce therapeutic effects in small doses, while causing strong toxic effects when consumed in excessive amounts. This aspect has also been noted by the World Health Organization, which emphasizes the necessity of strict adherence to safety measures when using medicinal plants [8; 17].

Ethnobotanical research serves to systematically study the traditional knowledge developed by local populations regarding the use of plants. This knowledge has primarily been transmitted orally from generation to generation, and its scientific analysis plays a significant role in the development of new medicinal preparations [10; 14]. At the same time, the use of poisonous plants in folk practice requires particular caution, as the boundary between their medicinal and toxic properties is very narrow and directly dependent on dosage [8].

**Ethnobotanical Significance of Poisonous Plants.** According to the analysis of the literature, the number of poisonous plant species in the flora of the Jizzakh region is estimated to range between 150 and 250 species [2; 3].

They mainly belong to the buttercup family (Ranunculaceae), nightshade family (Solanaceae), carrot family (Apiaceae), and spurge family (Euphorbiaceae).

The biologically active compounds contained in these plants

exert diverse effects on the human body, determining both their pharmacological and toxic properties [8; 11].

Some poisonous plants found in the Jizzakh region have long been used in traditional medicine. For instance, syrian rue (*Peganum harmala*) occupies a special place and is widely used as an antiseptic, antispasmodic, and sedative agent [2]. Jimsonweed (*Datura stramonium*), due to its tropane alkaloids, has bronchodilatory properties; however, its use requires strict control [8; 10].

According to studies by Abdullayev A.A. and Rasulov A.R., plants such as black henbane (*Hyoscyamus niger*) and poison hemlock (*Conium maculatum*) are also found in the region. Despite their strong toxic properties, they are occasionally used with caution in traditional medicine [3; 9].

From an ethnobotanical perspective, the use of poisonous plants is based on the long-standing experience of local populations. This knowledge is mainly transmitted orally from generation to generation and is largely empirical in nature [14; 15].

Improper use of poisonous plants can lead to various adverse health effects, including:

- poisoning
- allergic reactions
- disorders of the central nervous system
- dysfunction of internal organs

According to Rasulov A.R., especially the misuse or overdose of alkaloid-containing plants can result in severe intoxication [3].

In addition, incorrect identification of plant species or confusion with morphologically similar species remains a common practical problem [6; 7].

According to the World Health Organization (WHO), establishing safety monitoring systems for the use of medicinal plants is of critical importance [16].

Conclusion. Poisonous plants found in the Jizzakh region have significant ethnobotanical importance and have been traditionally used by local populations for various purposes, particularly in folk medicine. While the biologically active compounds in these plants determine their pharmacological properties, their improper or excessive use may pose serious risks to human health.

Therefore, it is essential to strengthen scientific approaches to the use of poisonous plants, ensure accurate identification, and develop guidelines for their safe application.

## References

1. Qodirov, U.Q. Medicinal Plants of Uzbekistan. – Tashkent: Fan, 1993. – 180 p.
2. Xojimatov, O.K. Medicinal Plants of Uzbekistan. – Tashkent: Fan, 1990. – 220 p.
3. To'xtayev, B.Y. Higher Plants of Uzbekistan. – Tashkent: O'qituvchi, 1998. – 320 p.
4. Rasulov, A.R. Poisonous plants of the flora of Uzbekistan and their biological characteristics. // Botanical Journal. – 2010. – No. 2. – P. 33–38.
5. Xojimatov, O.K. Use of medicinal plants in folk medicine and traditions in Jizzakh region. // Collection of Scientific Articles. – 2012. – No. 3(1). – P. 45–52.
6. Nabiev, M.M. Botany. – Tashkent: O'qituvchi, 2005. – 400 p.
7. Karimov, F.X. Chemistry and Pharmacology of Medicinal Plants. – Tashkent: Fan, 2014. – 256 p.
8. Bruneton, J. Pharmacognosy, Phytochemistry, Medicinal Plants. – Paris: Lavoisier, 1999. – 1119 p.
9. Evans, W.C. Trease and Evans Pharmacognosy. – London: Saunders Elsevier, 2009. – 616 p.
10. Heinrich, M., Barnes, J., Gibbons, S., Williamson, E. Fundamentals of Pharmacognosy and Phytotherapy. – Edinburgh: Elsevier, 2012. – 336 p.
11. Wink, M. Modes of action of herbal medicines and plant secondary metabolites. // Medicines. – 2015. – Vol. 2, No. 3. – P. 251–286.
12. Ekor, M. The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. // Frontiers in Pharmacology. – 2014. – Vol. 4. – Article 177.
13. Rates, S.M.K. Plants as a source of drugs. // Toxicon. – 2001. – Vol. 39. – P. 603–613.
14. Cotton, C.M. Ethnobotany: Principles and Applications. – Chichester: Wiley, 1996. – 424 p.
15. Balick, M.J., Cox, P.A. Plants, People, and Culture: The Science of Ethnobotany. – New York: Scientific American Library, 1996. – 228 p.
16. World Health Organization. Guidelines on Safety Monitoring of Herbal Medicines in Pharmacovigilance Systems. – Geneva: WHO, 2004. – 82 p.
17. World Health Organization. WHO Traditional Medicine Strategy 2014–2023. – Geneva: World Health Organization, 2013. – 76 p.