

## Ethnobotanical study of medicinal plants effective on kidney stones: A case study of Ilam city, Ilam province, Iran

Hori Ghaneialvar<sup>a</sup>, Hedayat Heydarizadeh<sup>b</sup>, Damoun Razmjoue<sup>c,d</sup>, Mahsoumeh Tahmasebi<sup>e</sup>, Naser Abbasi<sup>a</sup>, Mahmoud Bahmani<sup>a\*</sup>

<sup>a</sup>Biotechnology and Medicinal Plants Research Center, Ilam University of Medical Sciences, Ilam, Iran <sup>b</sup>Department of Pediatrics, Emam Khomeini Hospital, Faculty of Medicine, Ilam University of Medical Sciences, Ilam, Iran

<sup>e</sup>Medicinal Plants Research Center, Yasuj University of Medical Sciences, Yasuj, Iran <sup>d</sup>Department of Pharmacognosy, School of Pharmacy, Shahid Sadoughi University of Medical Sciences, Yazd, Iran <sup>e</sup>Department of Emergency Medicine, Emam Khomeini Hospital, Faculty of Medicine, Ilam University of Medical Sciences, Ilam, Iran

## Abstract

**Background and Purpose:** Information related to the use of medicinal plants has been passed down from one generation to another for many years, leading to the establishment of an important field called ethnobotany or herbal ethnography. To date, no research has been conducted to investigate the ethnobotanical medicinal plants of the indigenous people of Ilam to identify medicinal plants effective on kidney stones.

Materials and Methods: The current study is a cross-sectional ethnobotanical study between April 2023 and November 2023 in Ilam city. Collection of traditional therapeutic information about plants effective on kidney stones (kidney pain) was conducted through an ethnobotanical questionnaire. The individual conducting the inquiry personally carried out interviews by visiting each and every herbal store (Attari) in the city of Ilam. To analyze the data obtained from the interviews, indicators such as the usage report index (UR) and the quantitative index of the relative frequency of registration (RFC) were used to obtain quantitative information.

**Results:** According to the results, 52% of the participants in the study were male herbalistsand 48% were female. Approximately, 60% of the herbalists had a bachelor's degree, and 60% were Kurds. In Ilam city, 16 plant species from 14 plant families are used to treat kidney pain caused by kidney stones. Alfalfa, corn, Iranian scurvy, prickly pear, three-color marshmallow, tangerine, Japanese parsnip, spectacular artichoke, andole, black seed, Abu Jahl watermelon, murtlekh, desert ivy, two branched horses, yarrow, small-seeded cherry, chicory, fig and Desert monkey flower is one of the most important medicinal plants that are used in the ethnobotany of Ilam city to treat kidney stones.

**Conclusion:** The findings derived from this research not only preserve the ethnic knowledge related to medicinal plants in the region but also open avenues for further studies aimed at treating kidney stones with these identified plants, potentially leading to the development of effective and safe herbal remedies for this condition.

Keywords: Kidney; Kidney diseases; Medicinal plants; Ethnobotany

Corresponding Author: bahmani-m@medilam.ac.ir