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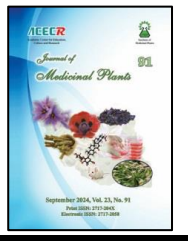

Research Article

Ethnobotanical survey on plants in Pashang village, Gonabad (Khorasan Razavi, Iran)

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ABSTRACT

Background: Documentation, preservation, and revival of information on how to use the medicinal plants, are among the leading research priorities in Khorasan with its long history. **Objectives**: This research aimed to document the wild medicinal plants and their uses in traditional herbal therapies among the Pashang ethnic group. **Methods**: Ethnopharmacological field studies were conducted during 2020-2021 in a 2000-year-old village near Gonabad. The herbal plants were collected, identified and prepared as voucher specimens, and data gathering was conducted based on face to face interviews with 80 well-known traditional herbalists and local elder people. Details of plants, part(s) used, and remedy formulations were elicited from informants. **Results**: A total of 50 species including medicinal and non-medicinal plants belonging to 25 families were identified. Lamiaceae, Asteraceae and Apiaceae with six species had the highest frequencies. These herbal plants have long been used for gastrointestinal (19 species), cold (9 species) and hematological (6 species). The most used parts of the plants were the arial parts with 28 %, flower 18 %, seed 14 % and fruit 12 %. **Conclusion**: Due to the long history in the use of medicinal plants, the present study helps introduce the valuable plant species, guide on how to use them, and preserve the local medical knowledge.

1. Introduction

Humans' familiarity with plants dates back to the beginning of their presence on the Earth. Iranian scientists, such as Abu Rihan, Ibn Sina, and Razi, have written numerous books on medicinal plants that have attracted the world's attention. One of these ancient Iranian book is the Pahlavi book, Bundahishn in the Sassanid period, which has categorized plants into 16 groups, based on how they are used [1]. Moreover, some mythical plants in ancient Iran's mythology, such as *Ephedra* sp., *Tamarix* sp., *Punica* sp, *Vitis* sp. and *Cupressus* sp., which indicate the role of plants in determining death and life of demigod characters were encountered [2]. The plants have always been sacred in the mind of primitive men, and their roots and branches have always been associated with the connection between heaven and Earth. It is based on such a belief that we seldom find a nation without an extraordinary plant that leads to the liberation from death and diseases. So traditional medicine was defined as skill, knowledge and practices based on beliefs and experiences indigenous to different culture used in

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the maintenance of health as well as in the prevention, diagnosis, improvement of illness [3].

Around the world about 70,000 plant species are used in traditional medicine and nearly a tenth part of them are used in Asia [4]. Iran with 8500 species is considered one of the world's best regions in terms of climate, geographical location, cultivation and consumption of medicinal plants [5]. The Iran Ethnobotany atlas has started in 2006 and examines how the herbal plants of a region are used [6]. Various researchers have studied ethnobotany in some parts of Iran for example in Sistan [7], in Alamut region of Qazvin [8], the plants in the Arasbaran protected area [9], 138 species in Kohghiluyeh Boyer Ahmad province [10] and registration some valuable information about 26 species belong to Lamiaceae in Mashhad [11, 12], 32 species with pharmaceutical use in Amol [13], 45 species in Kalaleh, Golestan Province [14], 64 species in Baluchistan [15] and 85 species were identified in Bushehr [16]. 174 species identified in Khuzestan [17] while the result of Azizi and Keshavarzi [18] showed rural in Sardashat (Western Azerbaijan) are highly dependent on their plant resources (Asteraceae and Apiaceae,Lamiaceae, Rosaceae and Fabaceae) for most of their basic needs especially for traditional medicines and food. 60 species were reported from Behbahan [19], 88 species of medicinal plant from Zanjan Provice [20], 77 medicinal species from Zanjan [21], 71 medicinal plants species from Abhar [22], 125 species from Bastam (Lorestan) [23], 62 medicinal plants in Fasa [24] and 88 species in Mahenshan [20] have documented from local communities.

Khorasan Razavi province is an important region in terms of suitable climatic conditions and fertile lands for the growth of various plant species. The local people hold vast knowledge about their natural resources, based on their close relation with nature and interacting with diverse and complex ecosystems over the centuries. The major arial parts are used to treat shortness of breath, colds and stress [24], the most common methods used for preparation of these plants are infusion and decoction. *Stachys turcomanica* Trautv, *Tripleurospermum disciforme* Mayweed, *Melissa officinalis* L., *Nardostachys jatamansi* (C.A. Mey) Shultz Bip and *Aloysia citriodora* Paláu have the highest rate of use [25]. Also there is an extensive report about Asteraceae and Brassicaceae importance in north Khorasan Razavi [26]. It has a historical background of 2000 years regarding the historical hill of Pashang, the Naqarkhaneh, and the Mohsen Abad tower are valuable evidence. According to the Shahnameh, when Pashang Shah, Afrasiab's son, moved from Turan Zamin to Zabol at the vengeance for his father, he created a city in the middle of the road which became known as Pashang. Moreover, the war between Turanians and Iranians took place in this hill, and it is now named one of the most important historical monuments in the country. Some pottery jars have been found during the excavations around this hill by the Cultural Heritage Office, which indicates the very ancient culture and civilization of the people in this village [27].

People have specific methods relate to using herbs and if such a knowledge, which has been passed from one generation to another, is not recorded; it will be vanished due to the entry of urban life elements and the new knowledge into rural and remote areas through different media and the disappearance of the elderly. So traditional knowledge of ethic groups is facing critical depletion [28]. This study was designed to identify the various species in the study area, register the inhabitants' knowledge on these plants and how to use them, and evaluate the

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human-plant relationship in terms of culture and economics, i.e., types of use, amounts, and methods of consumption.

2. Materials and Methods

2.1. Study Area

Pashang is located in 47 km northeast of Gonabad (Fig. 1). The population is about 2500 (600 families) and their main occupation is agriculture and animal husbandry. The climate is hot and dry in summers and cold winters and belongs to the Iran–Turan region. Its altitude is 905 meters with a longitude of 59° 4´ and latitude of 34° 26´ [29].

2.2. Research Procedure

The various plants in the area were collected in spring and summer in 2020 and 2021. Botanical identification of plant taxa (family and species names) were determined according to the following plant identification literature: Flora of Iran [30] and using valid flora identification. All voucher specimens deposited at the Herbarium of the Faculty of Natural Resources and Environment at the University of Birjand.

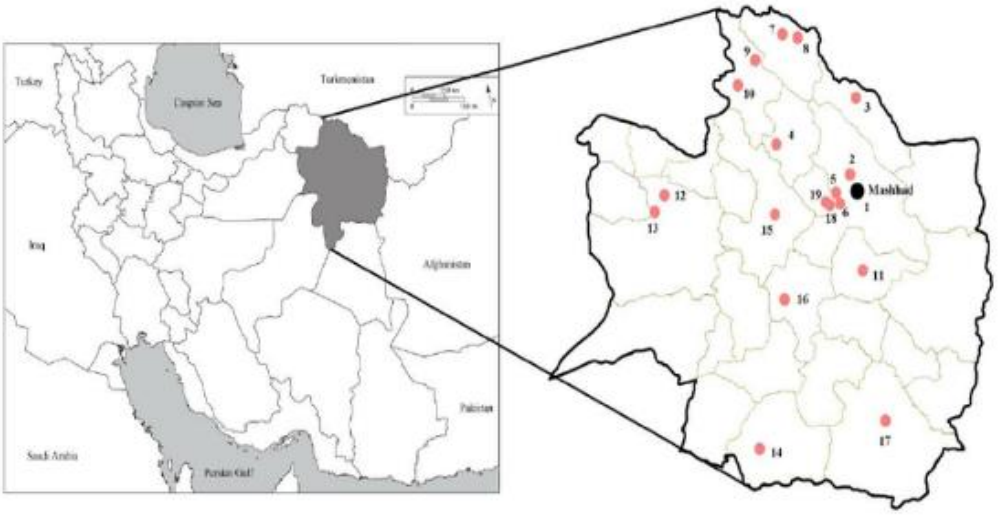

Fig. 1. The map of Khorasan Razavi Province and Gonabad, the study area

2.3. Collection of information

The selected medicinal plants were according to information gathered from 80 individual interviews in Pashang in 2020. The questionnaire form contains: sociodemographic profile of each respondent (sex, age and educational level), local name of species used, uses, plant parts used and methods of preparations were prepared. The information was collected from the elderly and those who had excelled in the traditional methods of midwifery, orthopedics and who were well known for their long practice in traditional medicine and healers. The number of men respondents was 58 (72.5 %) while the female were 28 (35 %) ranging 35 to 97 years old (Table 1). In cases of illiterate informants, fresh plant specimens or photos from the nature were presented to them.

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Table 1. Demographic characteristics of the local

Characteristics		Number
Gender	Male	62
	Female	18
Education	Uneducated Primary Level	12
	Secondary Level	53
	Educated	14
		11
Age	25-41	11
	41-55	19
	>56	50
Occupation	Farmer	48
	Herbal Healer	4 (Male)
	Herbal collector	14 (Female)
		1 (Male)
	Other	13

3. Results

Distribution of ethnobotanical knowledge according to gender, age, education and occupation were obtained. Majority of women did not have any formal education (56 %) in comparison to men. In terms of occupation, women were mostly occupied with housework (60 %), whereas men mostly engaged in farming (40 %) and private sector work 10 %). It is important to mention that there were 14 women as medicinal plant collectors vs. only one man. Fifty plant species belonging to 24 families, including medicinal and non-medicinal species were identified in the study area (Table 2). Among these, 12 (24 %) species were cultivated and 38 (76 %) were wild. The most spacious families dominant locally used were Apiaceae, Asteraceae and Lamiaceae with six species each.

The recorded information revealed that the gastrointestinal (14 species, 28 %), and cold-cough disorders (9 species, 18 %) are in the top list of diseases that are treated by native plants (Fig. 2). The arial parts were the most preferred plant part (28 %), followed by the flower (18 %), seed (14 %) fruit (12 %) and gum were the least used (8 %) (Fig. 3). The predominant method is drinking one glass of the plant infusion (42 %) followed by consumption decoction (16 %), using seed is not regular. There are two mode of administration of herbal preparations, internal (decoction and infusion) and external (ash, oil, gum). The most dominantly used preparation is infusion atrial organs (38 %) followed by decoction (14 %) (Fig. 4).

The most popular medicinal plants which frequently mentioned for the treatment of gastrointestinal diseases in the village were: *Teucrium poilum*, *Artemisia Vulgaris* and *Achillea wilhelmsii*. The pictures of some selected traditional medicinal plant are shown in Fig. 5.

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Table 2. List of species in the study area

Species	Local name	Family	W/C	Usage	Organ Used	Consumption	Voucher No.
Amaranthus spinosus L.	Taj-e-Khoros	Amaranthaceae	W	Cold and cough	Flower	Infusion	2160
Amaranthus retroflexus L.	Taj-e-Khoros	Amaranthaceae	W	Diarrhea, Cough	Flower	Infusion	1565
Seidlitzia rosmarinus Bunge ex Boiss.	Ajveht	Amaranthaceae	W	Make soap	Arial parts	Ash	2082
Chenopodium album L.	Salmeh	Amaranthaceae	W	Constipation	Leaf	Food	352
Pistacia atlantica Desf	Baneh	Anacardiaceae	W	Stomach pain, Back Pain	Seed-Leaf	Food	483
Anethum graveolens L.	Shoid	Apiaceae	C	Blood cholesterol	leaf-Seed	Decoction	2444
Apium graveolens L.	Tokhm-e-Kerefs	Apiaceae	C	Blood cholesterol	Seed	Decoction	407
Carum carvi L.	Zireh Koohi	Apiaceae	W	Hypercholestero lemia	Seed	Infusion	1860
Ferula assa foetida L.	Angozeh	Apiaceae	W	Stomach cramps	Root	Gum	1422
Ferula gummosa Boiss.	Kandal	Apiaceae	W	Internal Parasite	Root	Gum	3318
Carum copticum Benth. & Hook	Khordoneh	Apiaceae	C	Stomach ache	Seed	Food-Decoction	2767
Foeniculum vulgare Mill.	Yadiv	Apiaceae	C	Ear ache, Gastric acid	Seed	Infusion	3316
Achillea wilhelmsii L.	Boomadaro	Asteraceae	W	Vomiting-Stomach ache	Arial parts	Infusion	859
Artemisia vulgaris L.	Terikh	Asteraceae	W	Renal stone	Arial parts	Infusion	2749
Cichorium intybus L.	Kasni	Asteraceae	W	Cold-Liver	Arial parts	Stem extract	924
Echinops echinatus Roxb.	Kaleh Khari	Asteraceae	W	Anti-cough, anti-fever	Flower	Decoction	950
Pulicaria undulate (L.) C.A. Mey	Alaf Hizeh	Asteraceae	W	Elimination of poisoning and heatstroke	Arial parts	Decoction	972
Cirsium arvense (L.) Scop.	Sarkharo	Asteraceae		Liver detoxification	Stem	Raw-Infusion	3320
Descurainia sophia L.	Khakshir	Brassicaceae	W	Gastrointestinal	Seed	Syrup	2356
Convolvulus arvensis L.	Pichak	Convolvulaceae	W	Constipation	Leaf-Stem	Infusion	3317
Citrullus colocynthis L.	Henhavaneh abojahl	Cucurbitaceae	W	Cleanses the intestines and stomach	Fruit	Grounded seed	491
Citrullus lanatus (Thunb.) Matsum. & Nakai	Hendavaneh	Cucurbitaceae	C	Relieve pain in broken organ	Fruit	Fruit	3314
Cucumis anguria L.	Kharbozeh	Cucurbitaceae	C	Eliminate Jaundice caused by fractures	Fruit	Fruit	3315
Ephedra distachya L.	Hoom	Ephedraceae	W	Hematopoietic	Arial parts	Ash	478
Medicago sativa L.	Espest	Fabaceae	C	Skin disease &blood cholesterol	Leaf-Stem	Infusion	2643
Fumaria parviflora Lam.	Shahtareh	Fumariaceae	W	Antidepressant	Arial parts	Infusion-Stem extraction	506

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Table 2. List of species in the study area (Continued)

Species	Local name	Family	W/C	Usage	Organ Used	Consumption	Voucher No.
Crocus sativus L.	Zafero	Iridaceae	C	Antidepressant	Stamen	Spice	640
Juglans regia L.	Jooz	Juglandaceae	C	Gastrointestinal	Male Flower-Fruit	Dying-Food	2733
Teucrium polium L.	Kalpor	Lamiaceae	W	Cold & Cough	Flower	Infusion-Flower extract	731
Hyssopus angustifolius M. Bieb.	Zoofa	Lamiaceae	W	Cold	Arial parts	Infusion	3329
Ziziphora tenure L.	Kakooti	Lamiaceae	W	Cold	Arial parts	Infusion	732
Ziziphora clinopodioides Lam.	Oshan	Lamiaceae	W	Cold	Arial parts	Infusion	741
Mentha pulegium L.	Pedineh	Lamiaceae	C	Gastrointestinal	Arial parts	Infusion	2693
Nepeta binaludensis Jamzad	Ostogodos	Lamiaceae	W	Gastrointestinal, Cough	Flower-Leaf	Infusion	686
Eremurus spectabilis M.	Dom Robah	Liliaceae	W	prepare glue	Rhizome	Raw-Cooked	649
Allium sativum L.	sir	Liliaceae	C	Blood pressure	Corm	Food	2790
Alcea aucheri (Boiss.) Alef	Noon Jo Kalag	Malvaceae	W	Laxative, antipyretic, diuretic	Flower	Infusion	3276
Malva sylvestris L.	Gol Khabazi	Malvaceae	W	Shortness of breath	Flower	Infusion	754
Papaver somniferum L.	Taryak	Papaveraceae	W	Cold& Pain killer	Fruit	Smoking	2480
Astragalus hamosus L.	Danarg	Papilionaceae	W	Head ache & Gastrointestinal	Seed	Decoction	1654
Alhagi camelorum Fish.	Khar Shotor	Papilonaceae	W	Back pain, Jaundice	Latex	Decoction	1142
Alhagi persarum Boiss. & Buhse	Khongoy	Papilonaceae	W	Jaundice, Kidney stone, back pain	Latex	Decoction	1138
Plantago major L.	Bartang	Plantaginaceae	W	Cold, Diarrhea	Seed	Infusion	2406
Cynodon dactylon (L.) Pers	Feriz	Poaceae	W	Clogged arteries	Arial parts	Infusion	571
Polygonum aviculare L.	Banddok	Polygonaceae	W	Diarrhea	Arial parts	Infusion	820
Prunus scoparia (Spach) C.K. Schneid	Badameshk	Rosaceae	W	Skin Ointment	Fruit	Oil	1261
Rosa damascena Mill.	Gole-e-Galavi	Rosaceae	C	Depression, Constipation	Flower	Flower extract-Decoction	3306
Rosa arvensis Huds.	Zirg	Rosaceae	W	Anti-constipation	Flower	Infusion	3310
Solanum nigrum L.	Espekhangoor	Solanaceae	W	Tooth ache, Back pain	Fruit	Burned fruit	2805
Tamarix aphylla (L.) Karst	Gaz	Tamaricaceae	W	Back pain	Ash	Ash with oil	1397
Pegamum harmala L.	Sepand	Zygophylaceae	W	Gastric acid	Seed	Raw seed	1750

W: Wild sp. C: Cultivated sp.

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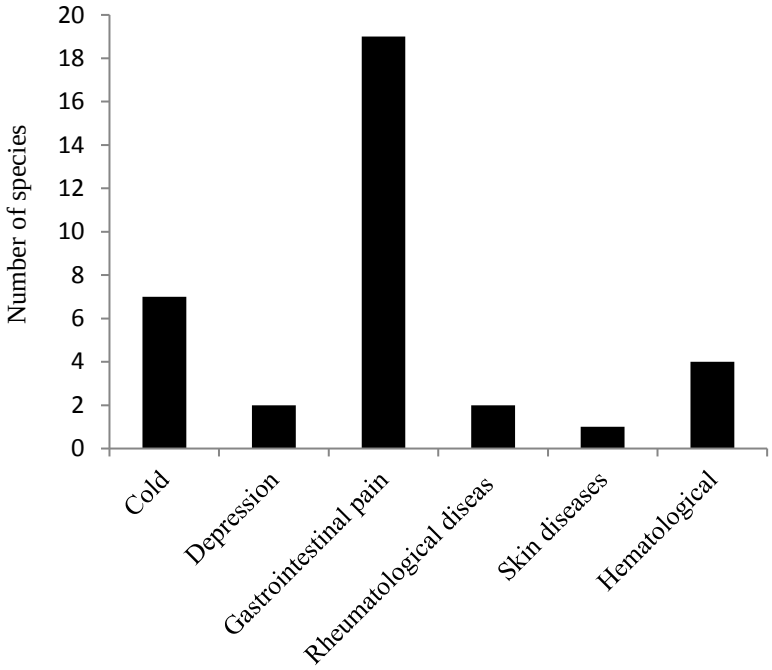

Fig. 2. Number of species used for different diseases

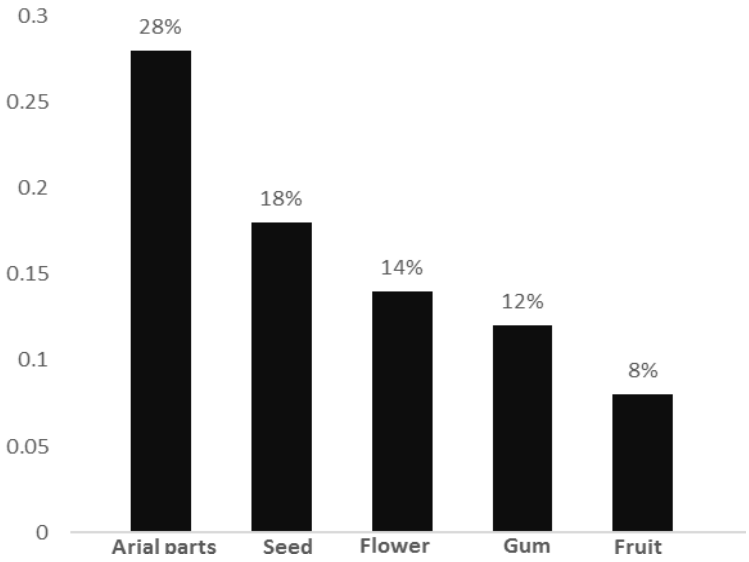

Fig. 3. The distribution of used plant parts

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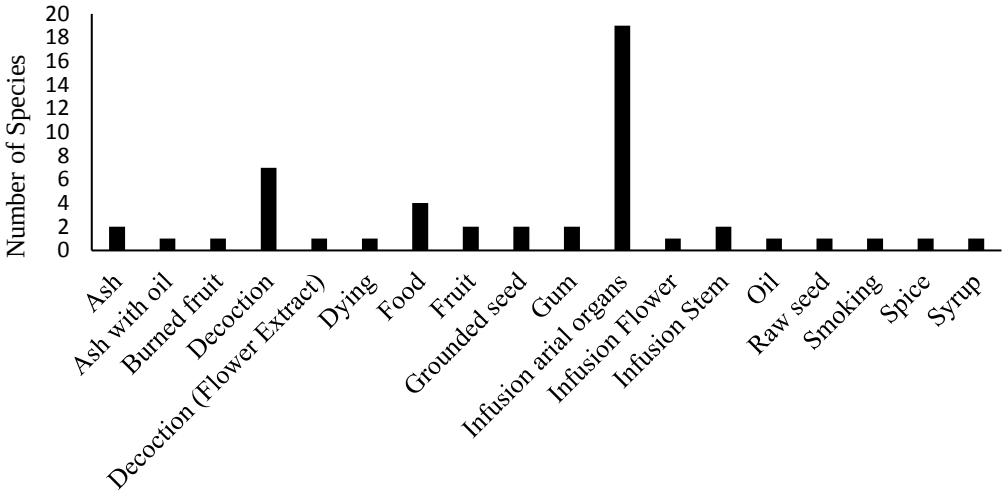

Fig. 4. The distribution of used form of plants

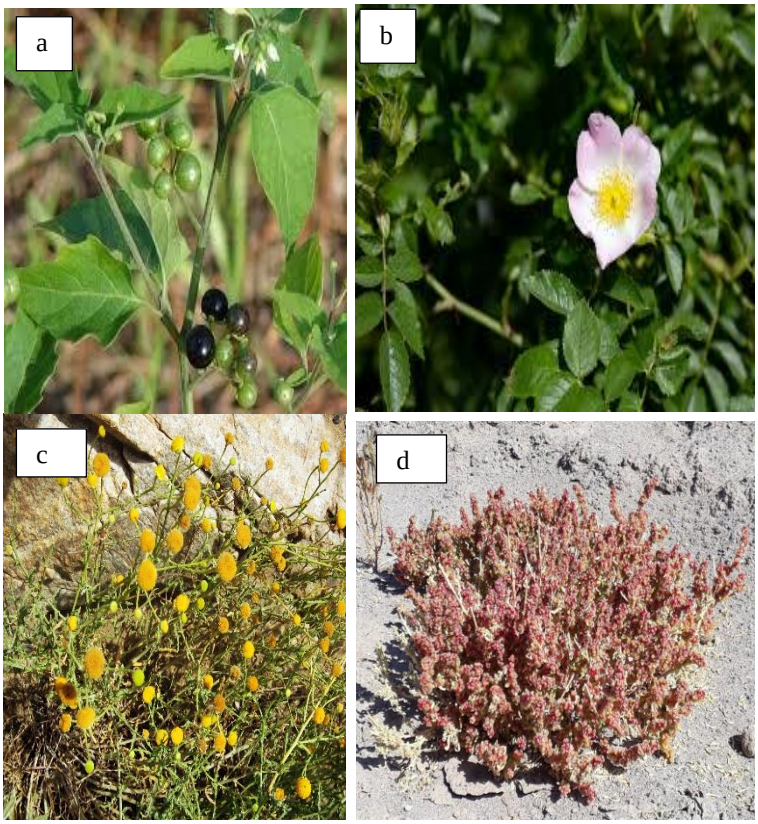

Fig. 5. Some traditional medicinal plants in Pashang (a: *Solanum nigrum*, b: *Rosa arvensis*, c: *Pulicaria undulate*, d: *Seidlitzia rosmarinus*

4. Discussion

4.1. Special methods of using some herbal plants among the Pashang inhabitants

Considering that the traditional treatment methods are at the verge of oblivion, some of the unique methods used in the village are introduced:

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4.1.1. Peganum harmela L.

The inhabitants use various parts of the plant. Its seed is used to treat heartburn caused by gastroesophageal reflux, and its wood is used to treat oral herpes in infants; the inhabitants fire the tip of the wood, then, they put off the fire so that the temperature decreases, and then, they put the wood on the blisters. Peganum smoke is also used to relieve the common cold; however, Peganum is most used in cases of evil eyes; they set them on the fire.

4.1.2. Treatment of gastric acid

Cumin is used for gastroesophageal reflux. This herbal medicine can be used alone or along with some water. Moreover, it can be ground with some cantaloupe or sugar- to reduce the bitterness - to produce a remedy called *sofouf*. Besides, the plant or its extract can be used along with soup to treat the common cold.

4.1.3. Making soap with Seidlitzia rosmarinus Bunge ex Boiss

Seidlitzia is used to make soap; first, a small pit is dug, and then, a small amount of dry wood is burned inside the pit, then, the green cumin bushes are placed on the fire to produce a substance from the burning plant. It is then mixed with animal oil and boiled. In the end, the substance is used for washing the body.

4.1.4. Treatment of the burning sensation in the head using Fumaria parviflora Lam.

The plant is used in the presence of a burning sensation in the head; the sensation is thought to be connected with a high-fat level. The plant is mixed with henna and rubbed on the head and the limbs. This remedy is reported very useful. Moreover, it is used in itching skin diseases.

4.1.5. Relieving renal stone using Artemisia vulgaris L.

Artemisia can be boiled in the water, and after straining the remedy, it can be used daily, which is efficient in relieving renal stones and relieve heat exhaustion.

4.1.6. Foeniculum vulgare Mill.

It is used to treat gastroesophageal reflux and earache. It can be mixed with food or added to bread as a flavor. However, to relieve earache, one must chew the plant and then breathe the air into the child's ear. It is also available in the extract form.

4.1.7. Relieving burnings with Papaver somniferum L.

The wound heals rapidly by adding some water to opium and rubbing the juice on the infected burn injuries. Moreover, it can be useful in toothache; putting a small amount of the juice on the aching tooth will relieve the pain.

4.1.8. Facial ointment with almond oil (Amygdalus scoparia Spach)

The plant has many uses, but its fruit is commonly used by women to make kohlrabi to rub on the infants' eyes to improve its sight. Also, the fruit kernel of this plant is mixed with milk to make an ointment similar to yogurt, which is very useful for removing blemishes on the face.

4.1.9. Treating lower back pain by Tamarix aphylla (L.) Karst

Tamarix can be used to relieve lower back pain and leg pain by burning the wood (Fig. 6), mix with oil and placing it in the fireplace so that the steam and heat relieve back and leg pain.

4.1.10. Treating fractures by Ephedra distachya L.

Usually, people traditionally engaged in orthopedics use this plant, which is in the form of a shrub; the wood can be burned, and its ashes mixed with some crumbs and salt and placed on

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the part producing sarnies, so to remove the sarnies caused by fracture or bruise.

4.1.11. Treating clogged arteries using Cynodon dactylon (L.) Pers

Cynodon, which is found along streams and farms, can be used to open thrombosed blood vessels. For this purpose, some of the plants should be mixed with about one liters of water and then boiled until two glasses of water remain.



Fig. 6. Using wood for boiling and preparing treatment in the study area

Using plants over a long period provides the people with the knowledge to select the most useful part of the plant and the best time to collect from nature for its targeted treatment. Apiaceae, Asteraceae and Lamiaceae were the most represented families in the area. The family Asteraceae is one of the largest plant families having 1600 genera and about 23,000 species in the world [31]. The members are cosmopolitan and due to the extensive evolutionary adaptations grow almost in all habitats. These adaptations include strong root system, water absorption mechanisms, specific leaf structure and production of chemical compounds, species diversity and resistant seeds. So, they are introduced species with high reproductive rates and have the potential to spread rapidly over large areas [32]. According to conducted studies 81 (18 %) species of Lamiaceae have been documented for medicinal uses in Iran [33]. Most of species when faced with thermal stress and defense mechanism is to increase the production of secondary compounds, including essential oil [34]. The predominance of these families in medicinal use is not a new finding. As studies from various area also reported similar results and the prevalence of a particular botanical family in medicinal use is mainly due to its being more widespread in the area compared to other species and more easily accessible [20, 21, 4, 12, 19, 17, 10, 35, 36, 37, 22, 38, 39, 40, 41]. The recorded information revealed that digestive system is the first target for traditional medicine in the area. Hakim Bu'ali Sina believed diagnosis of stomach swelling cause (depending on imbalances in Mizaj) is an important factor in treatment of gastric disorders [35]. The availability of plants with active ingredients, compounds, and essential oils which are quick-acting and highly effective against colitis, gastritis, intestinal worms, and infections, as sustained by ethnopharmacological studies [10, 22, 42, 43, 44, 45, 40, 46, 47].

Arial parts and leaves are the most used plant parts in the area. Other studies have also indicated that, in addition to conservation, ease of availability,

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and efficiency of use are other reasons why local residents utilize leaves [39, 47, 48, 49].

Despite *Ferula assa-foetida* and *F. galbanum* are industrial, the gum used for gastrointestinal disorder and heavily harvested. *Seidlitzia rosmarinus* is a pasture plant and not edible. In Pashang local make soap with this species. The accumulation of huge amounts of soda in the plant's leaves improves the plant's value and economic relevance because it may be used for soap and detergent production [50]. *Citrullus colocynthis* (L.) Schrad, a valuable plant, widely distributed in the desert areas and fruit has long history as medicine, reports on systematic toxicity and safety evaluation have been rare. The medicinal uses of this plant have been reported in the indigenous system of medicines in Pakistan, India, China, Africa and Asia, which include its uses in gut disorders such as indigestion, dysentery, gastroenteritis and colic pain as well as common cold, cough, toothache, wounds, and diabetes [51].

Solanum nigrum is generally regarded as a toxic plant and in Pashang burn the seed and then use it. However, in Europe, is used as a home-remedy for convulsions and as a soporific, especially for children. In India, it is used for a variety of therapeutic purposes in the indigenous systems of medicine, e.g. for the management and treatment of cardiac ailments, allergy, dropsy [34] and in Africa in ethnomedicine to treat epilepsy [52]. The toxicity is attributed to steroidal glycoalkaloids. *Amygdalus scoparia* as non-edible species is traditionally used for hyperlipidemia. Compared to olive oil, it has higher proportion of unsaturated to saturated fatty acid besides exhibiting higher index of oxidative stability [53]. *Ephedra distachya* has traditionally been used to treat asthma, bronchitis, and nasal congestion (inflammation of the nose and sinuses) [54, 55] but in this area the ash uses for repairing bone fraction.

The inhabitants know the plants and their properties based on their ancestors' information and personal experience; namely, they know precisely the time, location, and which part of the plant to collect (Fig. 7, 8, 9) but drought, heavy harvesting by local, and urbanization will affect dramatically the distribution of medicinal plants. So due to the uses of medicinal plants and preserving the indigenous knowledge, development of employment plans based on their cultivation and development consistent with local ecological conditions, can be lead to maximum productivity and a proper strategy for conservation of these plant gene pool special rare and endangered species. The lifestyle provides extensive connections with nature and the comprehensive knowledge of the inhabitants in identifying the plant species for their daily needs, such as food and medicine. So local people and researches face the challenging task of not only documenting knowledge of plants, but also applying the results of their studies to biodiversity management and community development. Recording this valuable asset, which has been transferred across generations and regarded as a spiritual legacy inherited to the local healers, orthopedics, and midwives are essential and they have to educated on conservation species. The traditional medicinal plants presented in this study might provide valuable leads for the identification of physiologically active natural compounds for pharmaceutical uses.

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Fig. 7. Preparing special treatment by traditional healer in study area



Fig. 8. Harvesting Crocus sp. in the field



Fig. 9. Drying fruit in traditional way

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5. Conclusion

Considering the wide range of medicinal plants in the studied area, it seems necessary to conduct plant sociological studies to determine the abundance of important species. It is necessary to design more extensive research in various fields of pharmacy and herbal pharmacology in relation to the plants of this region and to provide a proper and industrial use of the valuable ethnobotanical information of the people of this region.

Authors's contribution

The data were collected with respect to confidentiality anonymity and consent by HA, and SGM designed the study and contributed to the writing process and provided the final manuscript.

Conflict of interest

The authors of this study hereby declare that they no conflicts of interest to disclose.

References

1. Farhadi M. Ethnobotany of Colchicum Sp. *J. Soc. Sci*. 2014; 20(63): 1-33. doi: 10.22054/qjss.2013.799.

2. Mazdapour K and Latifipour S. Haoma plant and its role in indo-iranian liturgies and myths. *Pedagogic and Lyric in Persian Language and Literature Studies Quarterly*. 2012; 10: 203-226.

3. Eldeen IM, Effendy MA and Tengku-Muhammad TS. Ethnobotany: Challenges and future perspectives. *Res. J. Med. Plant*. 2016; 10(6-7): 382-387. doi: rjmp.2016.382.387.

4. Safa O, Soltanipoor MA, Rastegar S, Kazemi M, Nourbakhsh Dehkordi K and Ghannadi A. An ethnobotanical survey on hormozgan province, Iran. *Avicenna J. Phytomed*. 2013; 3(1): 64-81.

5. Batooli H, Batooli Z and Nadi-Rayvandi S. Bibliometric and subject analysis of articles in the ethnobotanical field of Iranian medicinal plants (1999 – 2022). *J. Med. Plants* 2023; 22(87): 57 -76. doi: 10.61186/jmp.22.87.57.

6. Haji Ali Mohammadi H, Taghavi Shirazi M, Gorbani AB. Atlas of Iranian herbs. *J. Soc. Sci*. 2006; 13(34&35): 175-198.

7. Iranmanesh M, Najaf, S and Yosefi M. Studies on Ethnobotany of important medicinal plants in Sistan. *J. Med. Herb.* 2010; 2: 61-68.

8. Ahvazi M, Mozafarian V, Nejadsatari T, Mojab F, Charkhchiyan M, Khalighi-Sigaroodi F and Ajani Y. Medicinal application of native plants (lamiaceae and Rosaceae family) in Alamut region in Gazvin province. *J. Med. Plants* 2007; 6(24): 74-84.

9. Zoulfaghari E, Adelim E, Mozaffariyan V, Babaiy S and Habibi Bibalan Gh. Identification of Arasbaran medicinal plants and ethnobotanical study of rural people knowledge (Case Study: Arasbaran forest, Mardanaghom watershed). *Journal Sci. Res*. 2012; 28(3): 534-550. doi: 10.22092/ijmapr.2012.2971.

10. Mosaddegh M, Naghibi F, Moazzeni H Pirania A and Esmaeilia S. Ethnobotanical survey of herbal remedies traditionally used in Kohghiluyeh Boyer Ahmad province of Iran. *J. Ethnopharmacol*. 2012; 141(1): 80-95. doi: 10.1016/j.jep.2012.02.004.

11. Amiri MS and Joharchi MR. Ethnobotanical investigation of traditional medicinal plants commercialized in the markets of Mashhad, Iran. *Avicenna J. Phytomed*. 2013; 3(3): 254-271.

12. Maghsoudi M and Salehi P. Ethnobotany in Avan area (Iran). *J. Soc. Sci*. 2013; 67: 244-272. doi: 10.22054/qjss.2015.1239.

13. Haydari A, Zali SH and Haydari Gh. Ethnobotanical survey of Namarestagh summer rangelands, Amol (Mazandaran). *Journal of*

[Downloaded from jmp.ir on 2026-11-23]

[DOI: 10.61186/jmp.23.91.88]

Traditional Medicine in Islam &Iran 2015; 5(4): 330-339.

14. Mirdeylami SZ, Heshmati GA and Barani H. Ethnobotanical and ethnoecological survey on medicinal species (case study Kechik rangelands in the Northeast Golestan province. *S. J. Indig. Knowl*. 2015; 1(2): 129-154. doi: 10.22054/qjik.2016.1567.

15. Sadeghi Z, Kuhestani K, Abdollahi V and Mahmood A. Ethnopharmacological studies of indigenous medicinal plants of Saravan region, Baluchistan, Iran. *J Ethnopharmacol*. 2014; 153(11): 111-118. doi: 10.1016/j.jep.2014.01.007.

16. Dolatkhahi M and Ghorbani Nohooji M. The most used medicinal plant species of Dashtestan (Bushehr Province), with emphasize on their traditional uses. *J. Med. Plants* 2013; 12(46): 85-105.

17. Khodayari H, Aamani SH and Amiri H. Ethnobotanical study of medicinal plants in different regions of Khuzestan province. *Ecophytochem*. *J Med. Plants* 2015; 2(4): 12-26.

18. Azizi H and Keshavarzi M. Ethnobotanical study of medicinal plants of Sardasht, Western Azerbaijan, northwesern Iran. *J. Herbal Drugs* 2015; 6(2): 113-119.

19. Razmjoue D, Zarei Z and Armand R. Ethnobotanical study (identification, medical properties and how to use) of some medicinal plants of Behbahan city of Khuzestan province, Iran. *J. Med. Plants* 2017; 16(64, Supp. 11): 33-49.

20. Toghranegar Z, Vafadar M and Ghorbani Nohooji M. Ethnopharmacological study of medicinal plants effective in the treatment of gastro-intestinal diseases in Mahneshan County. *J. Med. Plants* 2020; 19(75): 266-289. doi: 10.29252/jmp.19.75.266.

21. Moghanloo L, Ghahremaninejad F and Vafadar M. Ethnobotanical study of medicinal plants in the central district of the Zanjan county Zanjan province, *Iran. J. Herb. Drug* 2019; 9(3): 121-131.

22. Vafadar M and Toghranegar Z. Ethnobotanical study of some medicinal plants of Abhar county, Zanjan province. *J. Med. Plants* 2020; 19(75): 30-54. doi: 10.29252/jmp.19.75.30.

23. Bazgir A and Pourhashemi M. Ethnobotany of wild vegetation plants of Bastam, Lorestan Province. *S. J. Indig. Knowl*. 2021; 8(15): 85-158. doi: 10.22054/qjik.2021.60367.1265.

24. Mellati H, Kafi M, Mellati F and Najafi F. A review of several *Nepeta brateata* Benth. species and its ethnobotanical study in several cities of Khorasan Razavi. *J. Herbal Drugs* 2013; 3(4): 223-232.

25. Nadaf M, Joharchi MR, Amiri MS. Ethnomedicinal uses of plants for the treatment of nervous disorders at the herbal markets of Bojnord, north Khorasan Province, Iran. *Avicenna J. Phytomed.* 2019; 9(2): 153-163. doi: 10.22038/AJP.2018.11778.

26. Eslami Farouji A and Khodayari H. Ethnomedicinal plants of Farouj district, North Khorasan province, Iran. *J. Herb. Drug.* 2016; 7(1): 21-36.

27. Naderifar A and Mohamadi F. Analysing the story of "Rostam and Esfandiar" from the perspective of modern storytelling techniqus. *Res. J. Narra. Lit*. 2023; 12(2): 189-212. doi: 10.22126/rp.2022.6995.1434.

28. Fonge BA, Egbe EA, Fongod AG, Focho DA, Tchetcha DJ, Nkembi L and Tacham WN. Ethnobotany survey and uses of plants in the Lewoh- Lebang communities in the Lebialem highlands, south west region, Cameroon. *J. Med. Plant Res.* 2012; 6(5): 855-865. doi: 10.5897/JMPR11.1494.

29. Ejtahadi H, Vasegi P, Zakaee M and Joharchi M. Floristic studies, life form and chorology of

[Downloaded from jmp.ir on 2026-11-23]

[DOI: 10.61186/jmp.23.91.88]

plants in Kalat highlands of Gonabad, Khorasan Razavi province, east of Iran. *J. Sci. Kharazmi Univer*. 2008; 8(1): 75-88.

30. Rechinger KH. Flora Iranica. Vol. 1-176, Akademishe Druck University, Graz; 2005.

31. Fauziana M and Susandarini R. Species diversity and potential use of Asteraceae in Tawangmangu, Karanganyar Regency, central Java. *JTBB.* 2019; 4(1): 18-23. doi: 10.22146/jtbb.36652.

32. Baskin CC and Baskin JM. Seed dormancy in Asteraceae: a global vegetation zone and taxonomic/phylogenetic assessment. *Seed Sci. Res.* 33: 135-169. doi: 10.1017/ S0960258523000107.

33. Naghibi F, Mosaddegh M, Motamed SM and Ghorbani A. Labiatae family in folk medicine in Iran: from ethnobotany to pharmacology. *Iran. J. Pharm. Sci*. 2005; 4(2): 63-79. doi: 10.22037/ijpr.2010.619.

34. Popa CL, Lupitu A, Mot MD, Copolovici L, Moisa C and Copolovici DM. Chemical and biochemical characterization of essential oils and their corresponding hydrolats from six species of the Lamiaceae family. *Plants* 2021; 10(11): 2489. doi: 10.3390/plants10112489.

35. Jahantab E, Hosseini SH and Sadeghi Z. Ethnobotanical study of medicinal plants, Fasa County, Iran, *J. Med. Plants* 2023; 22(86): 88-112. doi: 10.61186/jmp.22.86.88.

36. Sadat-Hosseini M, Farajpour M, Boroomand N and Solaimani-Sardou F. Ethnopharmacological studies of indigenous medicinal plants in the south of Kerman, Iran. *J. Ethnopharmacol*. 2017; 199: 194-204. doi: 10.1016/j.jep.2017.02.006.

37. Polat R. Ethnobotanical study on medicinal plants in Bingöl (City center) (Turkey). *J. Herb. Med*. 2019; 16: 100211. doi: 10.1016/j.hermed.2018.01.007.

38. Vahedi A and Yasari E. Diversity of Medicinal Plants in the Biospherical Reservation areas of Iran: A case study of the protected area of Miankaleh. *Am. J. Sci*. 2011; 7(2): 308-312.

39. Cakilcioglu U and Turkoglu I. An ethnobotanical survey of medicinal plants in Sivrice (Elazıˇg-Turkey). *J. Ethnopharmacol*. 2010; 132(1): 165-175. doi: 10.1016/j.jep.2010.08.017.

40. Khajoei Nasab F and Khosrav AR. Ethnobotanical study of medicinal plants of Sirjan in Kerman Province, Iran. *J. Ethnopharmacol*. 2014; 154(1): 190-197. doi: 10.1016/j.jep.2014.04.003.

41. Rahemi Ardakani S and Poursakhi K. Traditional usage of native medicinal plants of Cheshmeh Gandou region in Sepidan Township (Fars Province). *J. Med. Plants* 2019; 19(74): 200-219. doi: 10.29252/jmp.19.74.200.

42. Hawrelak JA, Cattley T and Myers SR. Essential oils in the treatment of intestinal dysbiosis: A preliminary in vitro study. *Alt. Med. Rev.* 2008; 14(4): 380-384.

43. Mimica-Dukic N and Bozin B. *Mentha* L. species (Lamiaceae) as promising sources of bioactive secondary metabolites. *Curr. Pharm. Des*. 2008; 14(29): 3141-50. doi: 10.2174/138161208786404245.

44. Alexopoulos A, Kimbaris AC, Plessas S, Mantzourani I, Theodoridou I, Stavropoulou E, Polissiou MG and Bezirtzoglou E. Antibacterial activities of essential oils from eight Greek aromatic plants against clinical isolates of *Staphylococcus aureus*. *Anaerobe* 2011; 17(6): 399-402. doi: 10.1016/j.anaerobe.2011.03.024 .

45. Gasparetto JC, Martins CAF, Hayashi SS, Otuky MF and Pontarolo R. Ethnobotanical and scientific aspects of *Malva sylvestris* L.: A millennial herbal medicine. *J. Pharm. Pharmacol*. 2011; 64(2): 172-189. doi: 10.1111/j.2042-7158.2011.01383.x.

[Downloaded from jmp.ir on 2026-11-23]

[DOI: 10.61186/jmp.23.91.88]

46. Ullah A, Hassan N, Amin R, Khan A, Shi L and Li M. Quantitative ethnobotanical survey of medicinal plants used as remedy in Mera, District Charsadda, KP, Pakistan. *J. Bio. Env. Sci*. 2018; 12(5): 163-173.
47. Sargin SA. Ethnobotanical survey of medicinal plants in Bozyazı district of Mersin, Turkey. *J. Ethnopharmacol*. 2015; 173: 105-126. doi: 10.1016/j.jep.2015.07.009.
48. Leto N, Tuttolomondo T, Bella SL and Licata M. Ethnobotanical study in the Madonie regional park (Central Sicily, Italy) medicinal use of wild shrub and herbaceous plant species Claudio. *J. Ethnopharmacol*. 2013; 146(1): 90-112. doi: 10.1016/j.jep.2012.11.042.
49. Mashayekhan A, Pourmajidian MR, Jalilvand H, Gholami MR and Teimouri MS. Ethno botanical survey of herbal remedies traditionally used in North Khorasan Province of Iran. *Med. Aromat. Plant (JMAPS)* 2015; 4:3. doi: 10.4172/2167-0412.1000192.
50. Marjani SS, Hakimi M and Hossaini HA. Biological enrichment of Chromite ore on alkaline roasting using Seidlitzia Rosmarinus ash. *Orient. J. Chem*. 2018; 34(1): 544-547. doi: 10.13005/ojc/340162.
51. Hussain AI, Rathore HA, Abdur-Sattar MZ, Chatha SAS, Sarker SD and Gilani AH. *Citrullus colocynthis* (L.) Schrad (bitter apple fruit): A review of its phytochemistry, pharmacology, traditional uses and nutritional potential. *J. Ethnopharmacol*. 2014; 155(1): 54-66. doi: 10.1016/j.jep.2014.06.011.
52. Son HL and Yen PTH. Preliminary phytochemical screening, acute oral toxicity and anticonvulsant activity of the berries of *Solanum nigrum* L. *Trop. J. Pharm. Res.* 2014; 13(6): 907-912. doi: 10.4314/tjpr.v13i6.12.
53. Zibaeenezhad MJ, Shahamat M, Mosavat SH, Attar A and Bahramali E. Effect of *Amygdalus scoparia* kernel oil consumption on lipid profile of the patients with dyslipidemia: a randomized, openlabel controlled clinical trial. *Oncotarget*. 2017; 8(45): 79636-79641. doi: 10.18632/oncotarget.18956.
54. Ghavam M and Soleimaninejad Z. An overview of the various uses of *Ephedra distachya* L. from the past to the present. *Avicenna J. Pharm. Res*. 2020; 1(2): 82-86. doi: 10.34172/ajpr.2020.15.
55. Haerinasab M and Abbasi S. Ethnobotanical study of medicinal plants and introduction to some poisonous plant species of Ardestan (Isfahan Province). *J. Med. Plants* 2019; 70(18): 122-143. doi: 10.29252/jmp.2.70.122.

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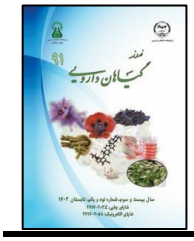

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مقاله تحقیقاتی

بررسی گیاه مردم شناسی گیاهان روستای پشنگ گناباد (خراسان رضوی، ایران)

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اطلاعات مقاله

گل‌واژگان:
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چکیده

مقدمه: مستندسازی، حفظ و احیای اطلاعات نحوه استفاده از گیاهان دارویی از اولویت‌های پژوهشی پیشرو در خراسان با سابقه طولانی است. **هدف**: این پژوهش با هدف مستند سازی گیاهان دارویی و کاربرد آنها در درمان های گیاهی سنتی در میان قوم پشنگ انجام شد. **روش بررسی**: مطالعات میدانی طی سال‌های ۲۰۲۱-۲۰۲۰ در روستایی با قدمت ۲۰۰۰ سال در نزدیکی گناباد انجام شد. گونه‌های گیاهی جمع‌آوری، شناسایی و نمونه هرباریمی تهیه و جمع‌آوری داده‌ها بر اساس مصاحبه چهره به چهره با ۸۰ نفر از بومیان آشنا به گیاهان دارویی و افراد مسن محلی انجام شد. جزئیات گیاهان، اندام مورد استفاده، و نحوه‌ی درمان جمع‌آوری شد. **نتایج**: در مجموع ۵۰ گونه گیاه دارویی و غیر دارویی متعلق به ۲۵ خانواده شناسایی شد. درمان، خراسان رضوی، دارو، گیاه، دانش بومی Lamiaceae، Asteraceae و Apiaceae با شش گونه بیشترین فراوانی را داشتند. این گیاهان از دیرباز برای دستگاه گوارش (۱۹ گونه)، سرماخوردگی (۹ گونه) و هماتولوژی (۶ گونه) استفاده می‌شده است. پرمصرف‌ترین اندام گیاه، اندام هوایی با ۲۸ درصد، گل ۱۸ درصد، دانه ۱۴ درصد و میوه با ۱۲ درصد بود. **نتیجه‌گیری**: با توجه به سابقه طولانی در استفاده از گیاهان دارویی، مطالعه حاضر به معرفی گونه‌های ارزشمند گیاهی، نحوه مصرف و حفظ دانش پزشکی بومی کمک می‌کند.

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