Journal of Herbal Drug
journal homepage:www.jhd.iaushk.ac.ir

Study the knowledge of rural and nomadic people of Semirom from medicinal plants for treatment of digestive diseases

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ARTICLE INFO

Type: *Original Research*
Topic: *Medicinal Plants*
Received *October 28th 2018*
Accepted *March 26th 2019*

Key words:
- ✓ *Medicinal plant*
- ✓ *Indigenous knowledge*
- ✓ *Semirom*
- ✓ *leaf*

ABSTRACT

Background & Aim: Indigenous knowledge is a part of the unique culture of each country, which has been adapted to the environmental conditions of a particular ecosystem through experience and it has gradually become as a part of the social and productive culture of that community. The purpose of this study was to collect medicinal herbs and treatments associated with gastrointestinal motility by villagers and Semiramis tribes.

Experimental: Medicinal plants were collected from different parts of Semirom and transferred to Isfahan Province Agricultural and Natural Resources Research and Education Center. Data collection was done by questionnaire and randomly collected from indigenous peoples of the region (village and tribes) regarding the use of medicinal plants for various diseases of the gastrointestinal tract, such as the method of use, how to prepare and the parts used. Finally, data were recorded in the tables and charts and interpreted.

Results: The results showed that the interviewed 26 people referred to various gastrointestinal diseases, which mostly used the limb.

Recommended applications/ industries: The indigenous people of the Semirom region had fairly large information of plant and medicinal plant in environments around them, especially among nomadic people, because they had to leave for three to four months a year due to changes in the seasons.

1. Introduction

Traditional medicine was recognized by the evolution of communication facilities around the world. The advances in chemistry in the nineteenth century naturally led scientists to work on extracting effective plant materials. Several years ago, there has been resurgence in the use of plant cultivation. Herbal remedies are now becoming increasingly popular due to the mild effect of herbs compared to chemical drugs. Today, herbal medicine has undergone a primitive and mysterious shell and its efficacy has been clinically and scientifically proven (Makoi, 1988).

A large number of people have adapted their lives to environmental conditions and have found a reliable way to live a life. Therefore, this knowledge is the result of the accumulation of centuries of experience and thus has the potential for sustainable development (Forouzah, 2014).

To describe the knowledge of rural peoples raised by their environmental context, words such as traditional knowledge, indigenous technical knowledge, rural knowledge, local knowledge, and ethnic science have been used. This knowledge originates from a particular geographic area and is part of the national capital of each tribe. Indigenous knowledge derives from real needs and environmental constraints and includes a collection of the best, most useful and consistent practices of exploitation and life in its own environment, transmitted through oral and experimental means from generation to generation. (Emadi and Abbas, 2008).

Sometimes the introduction of a new drug compound into the health system will require information beyond the literature of the libraries. Such information can be found among the oral speech of indigenous people and therapists of traditional societies. In fact, today many pharmacological classes have originated from a natural pattern. Kinin was obtained from the *Cinchona* spp., which was used for many years before the discovery of malaria to treat the symptoms of the disease. Quinidine, aspirin, atropine, digoxin, ephedrine, morphine, fisostgamine, pilocarpine, riserpine, taxon, tobucurinarine, etc. are only a few examples of the valuable compouds of medicinal herbs for later generations (Gilani *et al.*, 2005; Hadib *et al*. 2008).

The information of medicinal herbs used in traditional medicine has led to an increase in demand at the national and international levels and the improvement of the market for medicinal plants (Gelinsky, 2006). Also, the registration of this knowledge in books and their publication for new generations and the adaptation of this information and science with the knowledge of the day and the latest published articles in this field can increase national pride and create self-belief. On the other hand, it can be a rich source for researchers in the field of medicine, treatment, and health studies (Ismaili, 1991).

2. Materials and Methods

2.1. Villages and nomadic people

The city of Semirom is one of the main areas of the country's nomadic tribes, with 150 villages, four towns and four parts, and an additional 100,000 rural, urban and nomadic population, with 455000 hectares of national and natural areas located 160 km south of Isfahan.

2.2. Plant Plot

First, the land use map of the Semirom region was designed and then rangelands were identified in the region. After preliminary studies, using the information of native people, the paths of transit and natural complications were identified. Then, using a field survey method in different seasons and during a one-year period (2015-2016), plant species were collected in different parts of the arena. In cases where the plants used by the natives did not match the samples collected, the natives of the area were assisted to collect more accurately.

After that, plant samples were transferred to the Herbarium of Agriculture and Natural Resources Research Center of Isfahan province and dried. Then, identification was done using the recognized floras of Iranica (Rechinger, 1963-2010), Turkey (Davis, 1965-1988), Iran (Parsa, 1960-1988), Color Flora of Iran (Hero, 2006-1978) and other valid flora (Mozaffarian 1998 and 2008; Asadi, 2006-1977) and transferred to the Research Institute of Forests and Rangelands of Isfahan Province for confirmation of samples.

2.3. Collect native knowledge

The instrument for collecting indigenous information was interviewed using open questionnaires of experts (male and female) on medicinal plants in the tribes and villages and participatory observation at the planting site. In each region, at least five eligible people were questioned and a total of 94 interviews were conducted. If three people expressed the same amount of plant, the correctness of the drug's use was confirmed. For each species, information including local names, organs used, the most important local drug use, how to prepare, how much to eat, how to eat, the state of consumption was questioned.

3. Results and discussion

According to the results of interviews with local people, the most commonly use of traditional herbs of Semirom rangelands were to treatment of diseases of the digestive system, which were linked to the results of Raja *et al.*, (1997), Kimondo *et al.* (2015), Sajjadi (2011), Dolatkahi *et al.* (2010), Mardani Nezhad (2014), Rostami *et al* (2016), Sajjadi *et al.* (2016), Ganjali and Khaksefidi (2016), Niknejad *et al.* (2012).

Also, the use of these plants for the treatment of respiratory and pulmonary diseases was of paramount importance and similar results were reporetd by Sargin (2015), Boydon *et al.* (2015), Sajjadi (2011), Melati(2014), Mirdeilami *et al.* (2015) Nicenejad *et al.* (2012) in this context. Therefore, it can be said that the indigenous knowledge of the nomadic and rural people of the studied area around the surrounding plants was very rich and involved different aspects of the ethnopharmacology. People can also be treated in common diseases such as gastrointestinal diseases and colds, and cold-related complications, largely from the environment and nature, and this creates the people's creations in the traditional botany and the properties of each one of the plant species.

The results showed that the leaf, flower, fruit, and seed had the highest application among native species for different treatments. According to previous reports leaf and flower (Mirdeilami *et al.*, 2015); fruit, seed and leaf (Ramezanian and Minaifar,2016); and again leaf (Ganjali and Khaksefidi, 2016) were introduced as the most widely used herbal body. The use of regeneration and replanting organs (especially seeds) may have a significant effect on the proliferation and distribution of these plants in Semirom rangelands.

Also, the most common way to preparing plants by local people was in the forms of boiled, domestic consumption, and dry state. Matlabi Rikandeh *et al.* (2013) described the boiling process as the most preparation method while Mirdeilmi *et al.* (2015) reported both boiling process and domestic usage of fresh herbs. In the preparation of decoctions, the plant should be placed inside a container of cold water and then bring the water to boiling. Most of the breeding takes place in inflorescences and flower beds, especially flowers. To do this, you have to put a member of the plant in the container and pour boiling water on it, and then put it in a bottle for a while. Fresh materials have a higher weight due to water and more active ingredients (Zarkari, 1995). Also, given that the leaves were reported as the most organ used, so it seems that the preparation by boiling process is logical.

Table. Traditional therapeutic use of medicinal plants in Semirom rangelands with gastrointestinal diseases by people

Species	Part used	Disease treated	How to prepare	Range name	How to use	Consumption status	Users
Alhagi camelorum Fisch.	Flower, leaves, root	Kidney pain, Diarrhea		Padena	Internal	Fresh	Nomads
Allium ampeloprasum Thunb.	leaves	Digestive treatment, Atherosclerosis	Edible	Padena	Internal	Fresh	Village
Amaranthus retroflexus L.	Whole plant	Treatment of jaundice, Appetizer,	Decoction, Edible	Ghalhe Ghadam	Internal	Fresh, Dry	Village
Amygdalus scoparia Spach	Gum	Nausea treatment	Decoction	Zargham Abad	Internal, External	Fresh, Dry	Village-Nomads
Anethum graveolens L.	Leaves, fruit	Anti-flatulence, stomach ache	Edible, Infusion	Kooh-e-Gamane	Internal	Dry	Village
Artemisia aucheri Boiss.	Flowering branches	wind breaker, Anti-inflammatory,	Decoction	Shams Abad	Internal	Fresh, Dry	Nomads
Bunium persicum B.Fedtsch.	Fruit	Anti-flatulence, treatment for diarrhea	Edible, Decoction	Shah Jafar	Internal	Dry	Village
Coriandrum sativum L.	Leaves, fruit	Appetizer, Stomach pain relief	Edible, Decoction	Kohe-e-Ghareh Ghach	Internal	Dry	Village-Nomads
Eryngium campestre L.	Flower, stem	kidney stone, Anti-flatulence	Edible	Baghe-e-Shanaz, Baneh	Internal	Dry	Nomads

Ferula galbaniflua Boiss. & Buhse	Flowering branches, leaves	Anti-asthma, Anti-flatulence	Infusion	Tange-e-Khoshk	Internal	Fresh	Village-Nomads
Ferula ovina Boiss.	root, aerial parts	Antiepileptic, Sputum, Digesting food	Decoction	Tange-e-Khoshk, Baneh, Dalan Kooh	Internal	Dry	Nomads
Foeniculum vulgare Mill.	Fruit	Relieve thirst, Prevent Azastfragh	Decoction		Internal	Fresh	Village
Fumaria parviflora Lam.	Whole plant	Stomach Strengthening, skin diseases	Edible, Infusion	Ghahe Ghadam, Shams Abad	Internal, External	Fresh, Dry	Village
Glycyrrhiza glabra L.	Root	Anti-inflammatory, Gastric ulce	Decoction	Padena, Shams Abad, Tang-e-Khoshk	Internal	Dry	Nomads
Gundelia tournefortii L.	Stem	Appetizer, Fever	Edible	Tang-e-Khoshk, Bagh-e-Shahnaz	Internal	Fresh	Nomads
Mentha longifolia (L.) Huds.	Aerial parts	Anti-flatulence, stomach ache, Antimicrobial	Decoction	Kooh-e-Soolg, Ghanat	Internal	Fresh	Village
Mentha spicata L.	Leaves	wind breaker, Shortness of breath	Edible, Decoction	Padena	Internal	Fresh	Village
Myrtus communis L.	Leaves	Enhance hair growth, Hemorrhoids	Decoction	Tange Khoshk	external	Dry	Nomads
Nasturtium officinale R.Br.	Aerial parts	Stomach Strengthening, Appetizer	Edible	Tang-e-Khoshk, Cheshmeh Naz	Internal	Fresh	Village
Nigella sativa L.	Seeds	Anti cough, Anti vomiting	Infusion, Decoction	Padena	Internal	Fresh, Dry	Village
Plantago lanceolata L.	Whole plant	Anti-constipation, Anti cough	Decoction	Shams Abad,Cheshmeh Naz	Internal	Fresh, Dry	Village-Nomads
Prangos ferulacea Lindl.	Flower, leaves	Dell twists, wind breaker, Treatment of	Decoction	Zagham Abad, Baghe-e-Shanaz,	Internal, External	Fresh, Dry	Nomads
Rumex acetosa L.	Flower	Decreased blood pressure, anti diarrhea	Edible, Decoction	Padena	Internal	Dry	Village
Stachys inflata Benth.	Flowering branches	Treatment of infectious diseases,	Decoction	Tange Khosk. Baneh, Baghe Shahnaz	Internal	Dry	Nomads
Trifolium arvense L.	Flowering branches, leaves	Hematopoietic, Laxative	Infusion	Ghaerh Ghach, Padena	Internal	Fresh	Village
Ziziphora tenuior Falk	Aerial parts	Anti-nausea, Anti vomiting	Edible, Decoction	Shams Abad, Poshte	Internal	Dry	Nomads

4. Conclusion

The results of study showed that native speakers have a large semiconductor area around the medicinal herbs around them. Tribal people, as they are forced to move between three and four months; use herbal treatments in some diseases such as snakes and scorpions due to lack of access to doctors, distance from cities and lack of time. They also have more indigenous knowledge than rural areas, due to the information of the past generations that have come to them or collaborating with other tribes such as Kohgiluyeh and Boyer Ahmad and Fars, and exchanging information with these individuals.

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