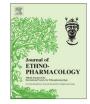Contents lists available at ScienceDirect

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Research Paper

Ethnopharmacological studies of indigenous medicinal plants of Saravan region, Baluchistan, Iran

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ABSTRACT

Ethnopharmacological relevance: This study was aimed to explore the indigenous knowledge of medicinal plant species of Baluch tribes in Saravan region, Baluchistan province, Iran.
Material and methods: Rapid appraisal approach along with the semi-structured open ended questionnaire, interviews and personal observations were used to collect the indigenous medicinal information. Quantitative analysis including the informant consensus factor (ICF) and use value (UV) was performed to evaluate the valued medicinal plants.
Results and discussion: A total 64 medicinal plants belonging to 30 families were reported from the study area. Among families, Lamiaceae dominated over other families and leaves dominated with 31% over other plant parts used as herbal remedies. *Rhazya stricta* and *Datura stamonium* (0.35) attributed the higher UV, followed by *Otostegia persica* (0.33) and *Teucrium polium* (0.32). Results of the ICF showed that cold/flu/fever (0.71) and blood disorders (0.57) were the most common diseases of the study area.
Conclusion: The use value and informant consensus factor substantiated that the relative importance of plant species and sharing knowledge of herbal therapies between different tribal communities of this area is still rich.

1. Introduction

Indigenous knowledge of plant species is the result of human interaction and selection of the most desirable, powerful and successful plant species found in the instantaneous environment at a specific time period. Use of medicinal plants dates back to the start of human well-being (Venkataswamy et al., 2010; Lulekal et al., 2013). Investigations on indigenous knowledge, therapeutic usage and resource management of plants is crucial as, it emphasize the value of these cultures and contributions to the self-sufficiency of these populations (Hamilton et al., 2003; Pareek and Trivedi, 2011; Amiri et al., 2012; Baptista et al., 2013). Ethnobotanical survey is helpful in preservation of traditional knowledge for future generation and other communities (Idolo et al., 2010; Mahmood et al., 2011).

Iran has admirable past regarding to traditional medicines, especially based on medicinal plants. History of indigenous medicines dates back to the time of the Babylonian–Assyrian civilization.

A substantial ancient heritage is a sophisticated experience of people who have tried over millennia to find useful plants for health improvement, each generation donating their experience to this tradition (Naghibi et al., 2005). This country has a diversified environment and its flora contains about 8000 species, dominated in the region near to East and South West Asia. Presently, rather than the availability of a wide range of modern medicines, still a worthy proportion of rural community relies on herbal/indigenous medicines (Bagheri and Reghan, 1994). Local communities from different parts of Iran have developed a sound ethnomedicinal knowledge (Mosaddegh et al., 2012) and the major contributions were made by Baluch tribes of Baluchistan province. This knowledge is in danger as Baluch tribes are assimilating the modern lifestyles. Thus, the documentation and preservation of medicinal plants with valuable indigenous uses by tribal inhabitants of Baluchistan province is deadly needed. This research survey was aimed to collect and document the indigenous medicinal information with emphasis on therapeutic uses of plants by tribal community and local healers of the study area. The results would be helpful for scientific and local communities with respect to the local or modern health care system. Recently few reports have been published in Pakistan on the ethnomedicinal information of plants

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practices in different communities (Mahmood et al., 2011, 2012, 2013a,b). To the best of our knowledge this is the first study to report the indigenous medicinal knowledge of Saravan region, Sistan and Baluchistan province, Iran.

2. Methodology

2.1. Study area

Saravan is located in the south-east of Sistan and Baluchistan province lying at 62 17′5.38″ to 62°22′2.56″ longitude and 27°20′14.53″ to 27°24′28.26″ latitude at an elevation 1000–1500 m above sea level (Hafezi moghdas et al., 2009, Hafezi-moghadas et al., 2010) (Fig. 1). It shares international border with Pakistan at east and south. District Khash is located at north and district Sib and Soran allocated at west of Saravan. Siahan is the longest mountain chain that located at east of the study area; started from Taftan Mountain and continue to Nahook touching Pakistan territory while Beark mountain chain resides in the west of this region. Mashkik River in Saravan, originates from the southern hillside near to Khash. The weather is hot with an average rainfall of 100 mm per annum (http://www.sbportal.ir/fa/sistan/cityinformation/saravan).

2.2. Data collection and plants identification

Data was collected during September 2010–May 2013 from three districts of Saravan. Rapid appraisal approach with open ended interview and questionnaire technique was adopted to record the ethnomedicinal information from the native people of the study area. A total of 265 informants were interviewed over

the visited area (Table 1), for all informants genders, age, profession and their background information were recorded. Traditional healers, medicinal plant vendors and people with sound medicinal knowledge were focused to collect the information. The local language of the study area was Balochi and Persian. Miss Zahra Sadeghi was aware with the local languages of the study area which permits the accuracy in data recordings. A list of important medicinal and endemic plant species was used during data collection. Information on vernacular names, medicinal application, herbal part(s) as pharmacological agent and mode of administration were recorded and presented with details in Table 2. Plants were collected, conserved as herbarium specimens and submitted in the Herbarium of High Education Complex of Saravan for future correspondence.

2.3. Data analysis

The data was analysed through different quantitative techniques for this purpose different approaches are considered for

Table 1
Sex and age character of people interviewed in the study are.

Informants	Age group (Years)		Total interviewed persons
	< 40	> 40	
Male	42	101	143
Female	23	63	86
Local healers	9	27	36
Total interviews			265

Fig. 1. Location map of Iran showing the Sistan and Baluchistan province and Saravan (study area).