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Full Length Research Paper

Traditional medicinal plants indigenous to Al-Rass province, Saudi Arabia

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An ethnobotanical survey was conducted in different localities of Al-Rass province, Qassim area, Saudi Arabia. Information about the local and scientific names, parts used and therapeutic application of 47 medicinal plant species belonging to 28 families commonly used by local inhabitants and traditional practitioners of recognized competence were described.

Key words: Medicinal plants, herbal drugs, ethnobotany, Al-Rass, Qassim, Saudi Arabia.

INTRODUCTION

Man ever since his first appearance on Earth, has used plant throughout his historical development as a source of medicines. Medicinal plants have formed the basis of the folkloric medicine which was the main source for new medicines discoveries (Newman et al., 2000). By the middle of the nineteenth century at least 80% of all medicines were derived from plants. Then, after the scientific revolution which leads to development of the pharmaceutical industry, the synthetic drugs dominated (Gilani and Atta-ur-Rahman, 2005). Herbal drugs are prescribed widely because of their effectiveness, fewer side effects and are relatively low in cost (Odhav et al., 2010).

Saudi Arabia has a hot desert climate and rainfall is scarce in most parts of the country. The flora of Saudi Arabia as well as the other countries in the peninsula has been neglected for a long time due to its arid climate. The first attempt to cover the flora of Saudi Arabia was in 1974 (Alfarhan et al., 1998). However, traditional medicine, occupies a significant part of Saudi Arabia's heritage and it is widely practiced until now (Al-Essa et al., 1998). Al-Rass province is located in south west of Qassim area in the central area of Saudi Arabia, eastern to the Arabian shield far from Riyadh, the capital, about 400 km (El-Ghazali et al., 2006). The aim of this study is to investigate the ethnobotanical knowledge and its applications of the medicinal plants indigenous to Al-Rass province.

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MATERIALS AND METHODS

Several ethno-botanical field trips were carried out in different localities of Al-Rass province from October 2005 to April 2006. The information was gathered by ethnobotanical interviews with the local traditional healers or Bedouin who had knowledge of the curative properties of plants. Both were mostly old people (60 to 70 years old). The various data of local name, medicinal uses, parts of plant used, were recorded. Plants collected were identified by Gamal E. El-Ghazali (Taxonomist). Voucher specimens were deposited in the herbarium at "The Museum of Science", College of Science and Arts, Al-Rass, Qassim University.

RESULTS AND DISCUSSION

Drug discovery form traditional medicinal plants continue to provide new and important leads against various illnesses (Balunas and Kinghorn, 2005). Selection of plants based on ethnobotanical knowledge can also lead to discovery of promising new molecules with potential therapeutic activities which are waiting to be discovered (Hostettmann et al., 2000). The ethnobotanical investigation in Al-Rass province has revealed that, a total of 47 medicinal plant species belonging to 28 families are commonly used for various illnesses by local inhabitants and Bedouin (Table 1). Table 1 showed a

Table 1. Ethnobotanical information of some medicinal plants from Al- Rass province.

Local name	Scientific name	Family	Voucher specimen	Part used	Most traditional usage
Athel	*Tamarix aphylla* (L.)	Tamaricaceae	ALRASMEDP 1	Leaves and roots	Wound infection and Stomach ache
Towaim	*Aerva javanica* (Burm.f.)	Amaranthaceae	ALRASMEDP 2	Whole herb	Tooth ache
Basal Al-Himaar	*Asphodelus fistulosus* (L.)	Liliaceae	ALRASMEDP 3	Seeds, bulk and flowers	Swellings, Anthelmintic Stomach ache
Bahma	*Dactyloctenuium aegyptium* (L.)	Poaceae	ALRASMEDP 4	Whole herb	Wound sepsis
Tammam	*Panicum turgidum* Forssk	Poaceae	ALRASMEDP 5	Whole herb	Eye infection
Thail	*Cynadon dactylon* (L.)	Poaceae	ALRASMEDP 6	Whole herb	Stop wound bleeding
Githgath	*Francoeuria crispa* (Forssk.)	Asteraceae	ALRASMEDP 7	Whole herb	Swellings and anti-inflammation
Jarbaa	*Farsetia aegyptiaca* Turra.	Brassicaceae	ALRASMEDP 8	Whole herb	Rheumatism
Rocka	*Eruca sativa* L.	Brassicaceae	ALRASMEDP 9	Seeds	Ringworm
Harmal	*Rhazya stricta* Decne.	Apocynaceae	ALRASMEDP 10	Leaves and flowers	Rheumatism and Allergy
Hambaaz	*Emex spinosa* L.	Polygonaceae	ALRASMEDP 11	Whole herb	Appetizer
Hammaad	*Rumex vesicarius* L.	Polygonaceae	ALRASMEDP 12	Whole herb	Toothache
Hamham	*Trichodesma africanum* L.	Boraginaceae	ALRASMEDP 13	Whole herb	Cough and cold
Himd	*Anabasis setifera* Moq.	Chenopodiaceae	ALRASMEDP 14	Leaves	Biliousness
Khobaiza	*Malva parviflora* L.	Malvaceae	ALRASMEDP 15	Whole herb	Laxative and promotes hair growth
Kha'reet	*Salsola imbricate* Forssk.	Chenopodiaceae	ALRASMEDP 16	Whole herb	Anthelmintic
Danban	*Reseda muricata* Presl.	Resedaceae	ALRASMEDP 17	Fruit	Menstruation tonic
Rabal	*Plantago ammplexicaulis* Cav.	Plantaginaceae	ALRASMEDP 18	Whole herb Leaves	Renal diseases and urinary tract purifier
Regla	*Portulaca oleracea* L.	Portulacaceae	ALRASMEDP 19	Whole herb	Anti-inflamation
Ramath	*Haloxylon salicornicum* Moq.	Chenopodiaceae	ALRASMEDP 20	Whole herb	Anti-diabetic; smog used for cold
Sidir	*Ziziphus spina-chisti* L.	Rhamnaceae	ALRASMEDP 21	Whole herb and bark	Duodenum and stomach ache
Sakaran	*Withania somnifera* L.	Solanaceae	ALRASMEDP 22	Leaves	Used in ulcers
Shibrim	*Zilla spinosa* Prantl.	Brassicaceae	ALRASMEDP 23	Leaves and flowers	Purgative but toxic at high doses
Shirshir	*Tribulus Terrestris* L.	Zygophyllaceae	ALRASMEDP 24	Leaves	Renal colic
Hunzal	*Citrullus colocynthis* L.	Cucurbitaceae	ALRASMEDP 25	Leaves and fruits	Analgesic, skin infections
Shook Al-gamal	*Echinops spinosissimus* Turra.	Asteraceae	ALRASMEDP 26	Whole herb	Splenic diseases and sore throat
Showaika	*Fagonia indica* Burm.	Zygophyllaceae	ALRASMEDP 27	Whole herb	Gout
Shika'a	*Fagonia bruguieri* Prod.	Zygophyllaceae	ALRASMEDP 28	Leaves	Blood and heart tonic
Al-damran	*Zygophyllum simplex* L.	Zygophyllaceae	ALRASMEDP 29	Whole herb	Ophthalmia
Tarfaa	*Tamarix nilotica* Ehrenb	Tamaricaceae	ALRASMEDP 30	Leaves and seed's oil	Leg varices
Atrah	*Chenopodium album* L.	Chenopodiaceae	ALRASMEDP 31	Leaves and fruits	Postnatal problems
Oshar	*Calotropis procera* Ait.	Asclepiadaceae	ALRASMEDP 32	Latex	Psoriasis, Leishmaniasis, and skin infections

Table 1. Contd.

Sanamakkah	*Cassia italica* Mill.	Caesalpinacea	ALRASMEDP 33	Whole herb	Laxative and urinary tract purifier
Uddaid	*Sonchus oleraceus* L.	Asteraceae	ALRASMEDP 34	Leaves and flowers	Promotes menstruation
Olaique	*Convolvulus arvensis* L.	Convolvulaceae	ALRASMEDP 35	Leaves and fruits	Foot cracking
Awsag	*Lycium shawii* Roem.	Solanaceae	ALRASMEDP 36	Fruits	Mouth ulcers
Ghazalah	*Euphorbia retusa* Forssk.	Euphorbiaceae	ALRASMEDP 37	Latex	Eczema, wound healing and anti-leishmaniasis
Gholfa	*Pergularia tomentosa* L.	Asclepiadaceae	ALRASMEDP 38	Whole herb	Skin diseases
Ghorzaa	*Ochradenus baccatus* Del.	Resedaceae	ALRASMEDP 39	Whole herb	Back pain and fistula
Qassapa	*Teucrium oliverianum* Ging.	Laminaceae	ALRASMEDP 40	Whole herb	Diabetes
Girgas	*Trigonella stellata* Forssk.	Fabaceae	ALRASMEDP 41	Whole herb	Hair diseases
Khafour	*Eucalyptus camaldulensis* Dehnh.	Myrtaceae	ALRASMEDP 42	Whole herb	Abortion and perfume
Khaf-Maryam	*Anastatica hierochuntica* L.	Brassicaceae	ALRASMEDP 43	Whole herb	Facilitate maternity
Lebbeck	*Albizzia lebbeck* L.	Mimosaceae	ALRASMEDP 44	Phloem	Anthelmintic
Lussaique	*Forsskalea tenacissima* L.	Urticaceae	ALRASMEDP 45	Whole herb	Ulcers
Shook Al-dabb	*Belpharis ciliaris* L.	Acanthaceae	ALRASMEDP 46	Leaves and whole herb	Toothache and skin wounds
Harm	*Zygophyllum coccineum* L.	Zygophyllaceae	ALRASMEDP 47	Whole herb	Anthelmintic

considerable number of plant species used for various illnesses associated with gastrointestinal problems, pains, rheumatism inflammations, ulcers, respiratory, circulatory, urological and skin diseases, and somewhat fewer for toothache, diabetes, allergy and gynecology. The most mentioned medicinal plant families were Zygophyllaceae (5 species), Brassicaceae and Chenopodiaceae (4 species), and Poaceae and Asteraceae (3 species). All these families as well as other families mentioned in this study are already represented in Saudi Arabia flora (Batanouny and Baeshin, 1982; Alfarhan et al., 1998), medicinal applications of some of their members have been already reported (Rahman et al., 2003; Saganuwan, 2010; Khatibi et al., 1989).

Interestingly, most of these plants are not traded in the domestic markets in Saudi Arabia. Besides, the principal chemical compounds, active ingredients, mode of action and safety in many of these plants have not yet been explained appropriately and surly requires further research. From the interviews, it was found that the traditional medicinal knowledge is mostly monopolized by old men, reversal to some communities in Africa, South America and Pakistan where women mainly are experts in medicinal plants and its application (Matavele and Habib, 2000; Begossi et al., 2002; Tareen et al., 2010). In addition, this ethnobotanical knowledge is not passed from the older generations to younger generations and it may become wiped out soon; Since, most inhabitants especially the younger generations tend to visit the clinics and hospitals more often than old people and Bedouin. Moreover, those traditional healers are using wild herbs without any effort to cultivate these medicinal plants making them under threat from extinctiont. This requires more attention since more than 15,000 plant species may face extinction globally due to over harvesting and habitat loss (Saganuwan, 2010).

Conclusion

Although, there is growing interest in traditional medicinal plants in Saudi Arabia, most local inhabitants in Al-Rass province did not rely on the indigenous medicinal plants due to the good health care services in this area and interest only goes to the official herbal shops in towns. The findings of this study lends some support to the treasures of traditional medicine knowledge in this area, which can serve as a basis for further medicinal research.

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