



## An Ethnobotanical study of plants used for the treatment of wounds in the Hajjah District, republic of Yemen

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### Abstract

Residents of Hajjah Directorate in Yemen rely on traditional medical treatment of medicinal herbs for various diseases. This treatment included their use of medicinal herbs as a medicine for treating wounds. Information collected from traditional healers through personal interviews and distribution of the questionnaire to the local population, the study revealed 15 species of plants used to treat wounds in the study area. Plants belong to 11 families; Aloeaceae is the most representative families. Among the parts of plants, leaf powder is the most commonly used pharmaceutical drugs. The medical prescription is used externally at the injury site.

**Keywords:** medicinal plants; traditional medicine; wounds; plant liquid

### Introduction

Since ancient times, Yemen has been known for the existence of various wild plant species, which are used for medicinal purposes, considering that all these types of plants of economic and commercial importance were monopolized by Yemenis due to the wars with other ancient civilizations<sup>[1, 6]</sup>. Hajjah governorate is one of the most important regions in Yemen. That's why, it is chosen to be the area of study. The study area is limited only to Hajjah district which is the capital of Hajjah Governorate (See Fig 1). It is located 127 kilometers northwest of Sana'a, at an elevation of about 1800 meters. As of 2003, Hajjah City District had a population of 90,887 inhabitants. It is located between latitudes (N 15° 36" 36", and N 13° 20" 21') and between longitudes (E 33° 43", and E 45° 43)<sup>[4]</sup>.

The study area is about 60 km<sup>2</sup> in size and characterized by a contrast topographical location where the high mountains in the East represented by the mountain range of Maswar which is about (3240) meters height, and the highlands and the low-lying plains in the West which are about (720) meters height. According to the climate of the study area, it is hot and rainy in summer, and cold and dry in winter<sup>[5]</sup>.

The most prominent book on the medicinal uses of plants in Yemen is "Medicinal plants of Yemen" by Dr. Abdul-Wali Al-Khulaidi and Dr. Al-Dubai. In this book the most important medicinal plants used and distributed in Yemen are mentioned. Many of the literature on popular uses of plants have been published in many Arab countries such as, the Flora of Sartre by Marten, G. J., 1995 and the Encyclopedia of the Medicinal Plant of the Arabian Peninsula by Jaber Al-Qahtani.



Fig 1: Location of study area Fig<sup>[1]</sup>

The treatment of wounds with medicinal plants in Yemen is not confined to a particular area. All regions use medicinal plants to treat their patients. Ibrahim Al - Seragy, in his recent study, listed some of the most important medicinal plants in the treatment of wounds such as, *Aloe vera* (L.) Burm. f., *Plantago lanceolata* L.<sup>[3]</sup>.

## Methods

The survey was carried out during August 2015 to December

2015 in order to get information about traditional medicinal plants used for treating for various diseases. The information about traditional medicinal plants collected from Healers and local people in region of Hajjah, District, Yemen. The collected data is based on visiting and interviewing Healers and local people in Hajjah. The plants collected during this work were identified with the help of different standard floras. The voucher specimen were scientifically identified, tagged and preserved in laboratory.

## Results and discussion

**Table 1:** Medicinal plants used for the treatment of wounds in the Hajjah District, Republic of Yemen.

Sr. No.	Scientific Names	Part used	Local name	Method of use
1	<i>Blepharis ciliaris</i> (L.) B. L. Burtt. Acanthaceae	E	Shorabah	Crush all parts of the plant and put it on burns and wounds
2	<i>Aloe vera</i> (L.) Burm. f. Aloeaceae	L	Sabbare	Put the liquid gel down from the leaves on wounds bleeding to cut bleeding and treat ulcers, treatment hair loss.
3	<i>Aloe perryi</i> L. Aloeaceae	L	Sabare	The plant is popularly used in wound healing, treatment of hair loss, stomach ulcers, killing of worms in the abdomen.
4	<i>Aerva javanica</i> L. (Burm. f.) Juss. Amaranthaceae	R, Fl, L	Reaa	It is used externally by placing its root, leaf or flower powder on the injury site.
5	<i>Schinus molle</i> L. Anacardiaceae	S,	Hawaegah	The leaves extract used to treat wounds and disinfect them from Bacterial infections.
6	<i>Adenium obesum</i> (forssk.) Roem & Schutl. Apocynaceae	S	Batat Agowz	The use of plant milk from the stem is applied to skin diseases such as pimples, rashes and chronic wounds
7	<i>Aristolochia bracteolata</i> Lam. Aristolochiaceae	R, L	Laeayah	The plant treats sciatica, and the root powder is used as a disinfectant for wounds.
8	<i>Helichrysum foetidum</i> (L.) Cass. Asteraceae	L	Regla alghorab	Leaf powder is applied over wounds.
9	<i>Trichodesma africanum</i> (L.) Sm. Boraginaceae	L	lesan al-thour	Crushed leaves are placed on the bleeding wound.
10	<i>Tamarindus indica</i> L. Fabaceae	Fr, S	Homer	Fruits and seeds are used in wound healing.
11	<i>Marrubium vulgare</i> L. Lamiceae	L	Zagome	Powder leaves treat wounds, and boiled syrup plant coughs.
12	<i>Plantago lanceolata</i> L. Plantaginaceae	L	Lesan, wadanaa	It is used in the treatment of wounds and a sedative and sedative for toothache if it is crushed and put on the aches.
13	<i>Actiniopteris semi flabellata</i> Pic. Serm. Pteridaceae	E	Jarmeah	The plant is used to treat wounds and burns by Fresh or dried leaf paste is applied topically.
14	<i>Solanum incanum</i> L. Solanaceae	L	Nogem, Arssam	The plant leaves are crushed and placed on bleeding wounds to be cleared of bacteria. Plant sticks are used in the stomach of small babies to relieve pain.
15	<i>Fagonia indica</i> Burm. f. Zygophyllaceae	L	Dhormea, Shakaea	The leaf powder is applied locally to the wound to stop bleeding and disinfection.

(E = Entire plant; L= leaves; Fl=Flowers; Fr= Fruits; R= Roots; S= Seeds)

The number of respondents in the interviews is as follows: Total persons interviewed are 100. Literate persons were 50; illiterate persons are 20; practicing Hakims are only 05 and persons which are not practicing Hakims but them give / suggest medicines are 25.

This study revealed that the total number of plant species treated by the local doctors and the local population in the Directorate of Hajjah is about 15 plant species (Table No.1). It is observed that, the plant *Aloe perryi* L. family Aloeaceae is the most widely used among these plants. The method of plant use varies according to plant type and location of the wound. Some of them use plant powder, while others use vegetable fluid, which flows from the stem and leaves, while others crush the leaves of the plant. It was noticed that, the percentage of the use of medicinal plants to treat wounds is increasing in view of the absence of health centers in the region due to the spread of wars and conflicts in the region

and the association of the people of the region with agriculture.

There are similar ethno pharmacological studies in South Africa (Rabe and Van Staden, 1997) in terms of the method of preparation of medicinal herbs, however, the plant species are different<sup>[2]</sup>.

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