



Useful Medicinal Plants for Kidney Introduced in *Makhzan al-Adviyah*; A Famous Persian Medicine Source for *Materia Medica*

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Abstract

Traditional medicine has a long history of use in health maintenance and in disease prevention and treatment in different countries. Persian medicine (PM) is an old system rich in information about medicinal plants. Persian scientists have explained their beliefs about world phenomena by theory of quadruple temperaments as hot, cold, dry and moist. *Makhzan al-Adviyah* is one of the main PM herbal pharmacopeias. In this study, the useful medicinal plants for kidney, their temperament and suggested application were extracted from *Makhzan al-Adviyah*. Results obtained from this research showed that 66 plants with exact scientific name were mentioned in this pharmacopeia for kidney diseases. 65% of these plants have hot and dry temperaments which may be useful for restoring misbalanced temperaments of kidney diseases. From these plants, *Pistacia lentiscus* L. and *Origanum vulgare* L. showed beneficial effects to improve kidney disease through cellular and animal studies. Considering the long history and effectiveness of PM in the treatment of diseases, medicinal plants that presented in this study have important value for more research especially well designed clinical trials.

Keywords: Kidney, Medicinal plants, Persian medicine, Temperament

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Introduction

Traditional medicine (TM) is an important part of healthcare and found in almost every country in the world [1]. TM has a long history of use in health maintenance and in disease prevention and treatment and the demand for its services is increasing [2]. TM is considered as new sources for drug discovery in various fields [3]. Persian medicine (PM) is an old system among various traditional systems of medicine (such as Chinese medicine and Ayurveda) that is rich in information about plants [4]. PM creator had been believed in the humoural theory of medicine and each plant had a certain temperament (*Midzaj*) in this rule [5]. There are different methods in PM to understand plants' temperaments from their color, odor, flavor and pharmacological effects [6]. PM herbal pharmacopeias such as *Makhzan al-Adviyah* (The Storehouse of Medicaments, 18th century) describes plants' temperaments. This book is more advantageous and universally known among the other PM textbooks because it is a treasure of opinions of ancient Iranian scientists such as Heravi, Avicenna, Rhazes, and Tonkaboni. More than one thousand plants are described in this book in terms of their morphology, temperaments and pharmacological effects. Since the PM practitioners did valuable work in the field of kidney disease [7], the goal of this study was to introduce useful medicinal plants for kidney mentioned in *Makhzan al-Adviyah*.

Methods

The useful medicinal plants for kidney referred in PM, their temperaments and suggested appli-

cations were extracted from *Makhzan al-Adviyah* [8]. Keywords for searching the book are "Koleye and Gorde". Plants' scientific names and families were searched via www.the-plantlist.com. Plants with non-exact scientific name were excluded.

Results

There are approximately 100 plants mentioned in *Makhzan al-Adviyah* for kidney diseases. Among them 34 plants had no exact scientific name. Other 66 useful plants for kidney and their definitive scientific names, family, temperaments and applications used for kidney in PM are listed in Table 1. Of forty families useful for kidney, the most important ones are: Apiaceae (7 species), Fabaceae (5 species), Lamiaceae (4 species), Asteraceae (3 species), Lauraceae (3 species). Percentage of plants' temperaments is respectively 65% hot and dry, 8% cold and moist, 14% cold and dry, 12% hot and moist (Figure 1).

Table1. Plants used in PM containing scientific names, family, temperaments and applications used for kidney

No.	Scientific names	Family	Name(s) in PM Resources	Applications used for kidney in TIM	Temperaments
1.	<i>Alisma plantago</i> L.	ALISMACEAE	Mezmar-al-rauei (مزمارالرأعي)	for kidney and bladder stones	Hot , dry
2.	<i>Allium ampeloparsum</i> L.	ALLIACEAE	Koraas (كراث)	kidney and bladder tonic	Hot , dry
3.	<i>Pistacia lentiscus</i> L.	ANACARDIACEAE	Mastaki (مصطكى)	kidney tonic	Hot , dry
4.	<i>Pistacia vera</i> L.	ANACARDIACEAE	Phostogh (Pesteh) (پسته)	for renal atrophy	Hot , dry
5.	<i>Anethum graveolens</i> L.	APIACEAE	Shebet (شبت)	kidney tonic	Hot , dry
6.	<i>Apium graveolens</i> L.	APIACEAE	Karafs (كرفس)	kidney tonic	Hot , dry
7.	<i>Bunium persicum</i> .	APIACEAE	Kammun (كمون)	kidney tonic	Hot , dry
8.	<i>Cuminum cyminum</i> L.	APIACEAE	Kammun (كمون- زيره سبز)	kidney tonic & for kidney stones	Hot , dry
9.	<i>Ferula assa-foetida</i> L.	APIACEAE	Anjodan (انجدان)	kidney tonic	Hot , dry
10.	<i>Elettaria cardamomum</i> L.	APIACEAE	Qerdamana (قردمانا)	for kidney pain	Hot , dry
11.	<i>Seseli tortuosum</i> L. (<i>Seseli libanotis</i>)	APIACEAE	Cisaliuss (سيساليوس)	for kidney& bladder pain	Hot , dry
12.	<i>Arum italicum</i> L.	ARACEAE	Luf-e Kabir (لوف كبير)	for kidney obstruction	Hot , dry
13.	<i>Colocasia antiquorum</i>	ARACEAE	Qolqhas (قلقاس)	for kidney atrophy	Hot , moist
14.	<i>Cocos nucifera</i> L.	ARECACEAE	Narjil (نارجيل)	kidney tonic	Hot , dry
15.	<i>Asarum europaeum</i> L.	ARISTOLOCHIACEAE	Asarun (اسارون)	kidney tonic- and for kidney & bladder stones	Hot , dry
16.	<i>Asparagus officinalis</i>	ASPARAGACEAE	Halyoon (هليون)	for kidney obstruction and stones	Cold , moist
17.	<i>Aloe vera</i> L.	ASPHODELACEAE	Sabr (صبر)	for kidney diseases	Hot , dry
18.	<i>Artemisia abrotonon</i> L.	ASTERACEAE	Ghaysum (قيصوم)	break up kidney& bladder stones	Hot , dry
19.	<i>Cichorium intybus</i> L.	ASTERACEAE	Handeba (هندبا)	cleaning kidney tract- for kidney weakness	Cold , moist
20.	<i>Tragopogon pratensis</i>	ASTERACEAE	Lahie- al-tays (لحيه التيس)	for kidney pain	Moderate, dry
21.	<i>Anchusa tinctoria</i> L.	BORAGINACEAE	Abu Khalsa (ابوخلسا)	for kidney pain	Hot , dry
22.	<i>Morettia canescens</i>	Brassicaceae	Hom- al-majoos (هوم المجوس)	for kidney& bladder stones	Hot , dry
23.	<i>Cucurbita pepo</i>	CUCURBITACEAE	Kadu (كدو)	for kidney atrophy	Cold , moist
24.	<i>Ecballium elaterium</i>	CUCURBITACEAE	Ghesa- al-hemar (قضاء الحمار)	for kidney& bladder stones	Hot , dry
25.	<i>Cyperus longus</i> L.	CYPERACEAE	Sod (سعد)	kidney tonic	Hot , dry
26.	<i>Equisetum arvense</i> L.	EQUISETACEAE	Amsukh (امسوخ)	for kidney & bladder diseases	Cold , dry
27.	<i>Acacia catechu</i> L.	FABACEAE	Kaat (كات)	for kidney diseases	Cold , dry
28.	<i>Alhagi mannifera</i>	FABACEAE	Aaghul (عاقول)	for kidney diseases	Hot , dry

29.	<i>Glycyrrhiza glabra</i> L.	FABACEAE	Sus (سوس)	for kidney diseases	Hot , dry
30.	<i>Phaseolus vulgaris</i> L.	FABACEAE	Lubia (لوبيا)	for kidney diseases	Hot , moist
31.	<i>Vicia ervillia</i> L.	FABACEAE	Karsane (كرسنه)	kidney tonic	Hot , dry
32.	<i>Ajuga chamaepitys</i> L.	LAMIACEAE	Komafitus (كمافيطوس)	for kidney pain	Hot , moist
33.	<i>Melissa officinalis</i> L.	LAMIACEAE	Badranjbuie (بادرنجبويه)	for kidney diseases	Hot , dry
34.	<i>Origanum vulgare</i> L.	LAMIACEAE	Marzanjush (مرزنجوش)	for kidney diseases	Hot , dry
35.	<i>Teucrium chamaedrys</i> L.	LAMIACEAE	Kamazaryus (كماذريوس)	for kidney diseases	Hot , dry
36.	<i>Cinnamomum bejolghota</i>	LAURACEAE	Salikha (سليخه)	for kidney diseases	Hot , dry
37.	<i>Cinnamomum camphora</i>	LAURACEAE	Kafur (كافور)	for kidney diseases	Hot , dry
38.	<i>Laurus nobilis</i> L.	LAURACEAE	Ghar (غار)	for kidney & bladder diseases	Cold , dry
39.	<i>Chlorophytum around</i>	LILIACEAE	Museli (موسلي)	for kidney diseases	Hot , dry
40.	<i>Iris sp.</i>	IRIDACEAE	Avafius (اوافيوس)	for kidney pain	Cold , dry
41.	<i>Linum usitatissimum</i> L.	LINACEAE	Katan (كتان)	for kidney stones	Cold , dry
42.	<i>Malva sylvestris s.</i>	MALVACEA	Khobbazi (خبيازي)	for kidney pain	Cold , moist
43.	<i>Gossypium herbaceum</i> L.	MALVACEAE	Ghatan (قطن)	for kidney pain	Hot, moist
44.	<i>Ficus sycamorus</i> L.	MORACEAE	Jammiz (جميز)	for kidney pain	Hot , moist
45.	<i>Morus alba</i> L.	MORACEAE	Toot (نوت)	for kidney diseases	Hot , moist
46.	<i>Musa sp.</i>	MUSACEAE	Mauz (موز)	for kidney atrophy	Hot , dry
47.	<i>Syzygium aromaticum</i> (L.)	MYRTACEAE	Gharanfol (قرنفل)	kidney tonic	Hot , dry
48.	<i>Sesamum indicum</i> L.	PEDALIACEAE	Samsam (کنجد)	for kidney stones	Hot , moist
49.	<i>Populus tremula.</i>	Salicaceae	Sanobar (صنوبر)	for kidney & bladder pain	Hot , dry
50.	<i>Piper cubeba</i> L.	PIPERACEAE	Kababa (كبابه)	for kidney obstruction	Hot , dry
51.	<i>Piper nigrum</i> L.	PIPERACEAE	Felfel (فلفل)	for kidney diseases	Hot , dry
52.	<i>Oryza sativa</i> L.	POACEAE	Oroz (ارز)	for kidney diseases	Hot , dry
53.	<i>Polyporus officinalis</i>	POLYPORACEAE	Gharighun (غاريفون)	for kidney obstruction stones	Hot , dry
54.	<i>Parietaria cretica</i> L.	URTICACEAE	Azan- al-far (آذان الفار)	for kidney diseases	Hot , dry
55.	<i>Zizyphus jujube</i>	RHAMNACEAE	Onnab (عناب)	for kidney pain	Moderate, moist
56.	<i>Prunus avium</i> L.	ROSACEA	Gharasia (قراصيا)	for kidney & bladder stones	Cold , dry
57.	<i>Rubus fruticosus</i> L.	ROSACEA	Aliagh (عليق)	kidney tonic	Cold , dry

58.	<i>Areca catechu</i>	ARECACEAE	Fufal (فوفال)	for kidney diseases	Cold , dry
59.	<i>Citrus aurantium L.</i>	RUTACEAE	Narenj (نارنج)	expulsion of kidney & bladder stones	Hot , dry
60.	<i>Physalis alkekengi L.</i>	SOLANACEAE	Kakanj (کاکنج)	for kidney & bladder diseases	Cold , dry
61.	<i>Styrax officinalis L.</i>	STYRACACEAE	Meya saeleh (میعه سائله)	kidney & bladder tonic	Hot , dry
62.	<i>Aquilaria malaccensis L.</i>	THYMELAEACEAE	Uud (عود)	kidney tonic	Hot , dry
63.	<i>Nardostachys jatamansi</i>	VALERIANACEAE	Sonbol (سنبل)	for kidney diseases	Hot , dry
64.	<i>Valeriana officinalis L.</i>	VALERIANACEAE	Nardin (ناردين)	for kidney pain	Hot , dry
65.	<i>Viola odorata L.</i> (<i>Viola etrusca</i>)	VIOLACEAE	Banafsaj (بنفسج)	for kidney pain	Cold , moist
66.	<i>Vitis vinifera L.</i>	VITACEAE	Enab (عناب)	for kidney pains	Hot , moist

Percentage of herbs' temperament

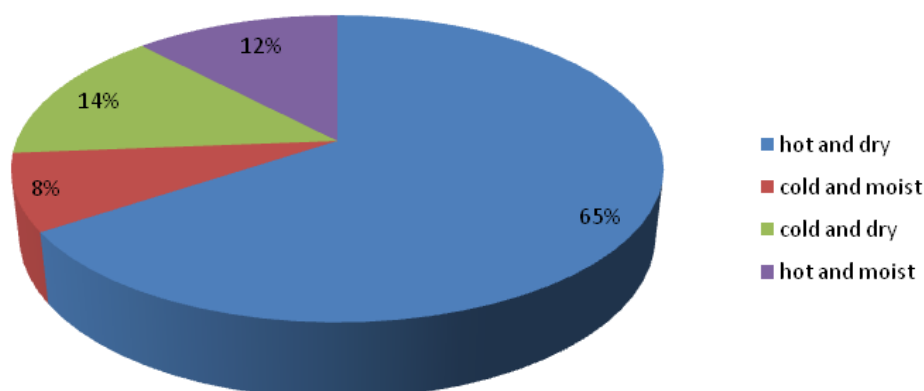


Figure1. The percentage of herbs temperament

Discussion

Persian traditional scientists have explained their beliefs about human body, diseases and remedies including medicinal plants by the theory of quadruple elements and have defined their temperaments as hot, cold, dry and moist. According to this theory, to restore misbalanced body tempers, PM physicians prescribed medicines with antagonistic temperaments [9]. This study explains useful medicinal plants for

kidney of which 65% have hot and dry temperaments. Hot and dry temperaments of these plants may be related to defined temperament of kidney diseases.

Varies clinical trials and epidemiological studies showed that diets containing plants have important role in prevention of kidney diseases [10]. This study showed that from the viewpoint of PM, different medicinal plants' families can affect kidney disorders. From these families

Apiaceae is a main referred plant. Thus, plants in this family and their main constituents can be subjected for future studies in case of finding new remedies for kidney disease.

Of the beneficial plants for kidney disease mentioned in *Makhzan al-Advia*, Mastic (*Pistacia lentiscus*) from Anacardiaceae family and Oregano (*Origanum vulgare*) from Lamiaceae family showed beneficial effects to improve kidney disease through cellular and animal studies [11,12]. There are rare pharmacological evidence for other plants in prevention of kidney disorders. Moreover, mechanism of action of these agents is not completely clear. Considering the long history and effectiveness of PM in the treatment of diseases, medicinal plants that presented in this study have important value for more research especially well designed clinical trials. In addition, safety of these herbal medicines in patients suffering from kidney diseases should be confirmed with more investigations.

Conflict of Interest

None.

Acknowledgment

None.

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