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A review of medicinal herbs affects the kidney and bladder stones of children and adults in traditional medicine and ethno-botany of Iran

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ABSTRACT

Studies show that the incidence of kidney stones are common and urinary tract stones occur after urinary tract infections and prostate disorders, are the third most common disease of the urinary tract. Developing kidney stones cause severe pain and colic in patients which conventional drugs in most cases will not disappear the pain. The consumption traditional medicinal plants include the most basic methods of dealing with the disease. In Iran, since ancient times, medicinal plants have been used to treat the urinary stones. The aim of this study is identifying medical plants in different parts of Iran in traditional medicine for the treatment of stones. After collecting medicinal plants used in different parts of Iran, 68 medicinal plants was determined in Iran which published on the resources of traditional medicine for the treatment of kidney stones are used. Ethnobotanical studies led to the creation of new original ideas, which in laboratory studies and pharmacological treatment effects can be checked and evaluated and if so they be effective on urinary stone can produced natural remedies against urolithiasis.

Keywords: medicinal plants, ethno pharmacology, ethnobotany, urolithiasis, Iran

INTRODUCTION

Studies show that the incidence of kidney stones are common and urinary tract stones occur after urinary tract infections and prostate disorders, are the third most common disease of the urinary tract [1]. Kidney stones are a common clinical disorder and its prevalence is influenced by lifestyle changes, changes in geographic, race and ethnicity and other factors [2,3].

Developing kidney stones causes severe pain and colic in patients which pain often will not disappear with conventional drugs [1]. It is known that the prevalence of kidney stones in Iran among the countries is high so that the incidence of kidney stones in our area estimated 2-3 per cent [4,5]. Kidney stones usually cause severe colicky pain in the affected individual. This type of renal colic pain in most cases will not disappear with conventional drugs and chemical drugs used to relieve pain have side effects [6,7]. The most basic methods of dealing with the disease, is the use of traditional medicinal plants. Plants and their extracts are used for the treatment of various diseases in humans [8-12]. Medicinal plants are an important part of traditional medicine in many countries and constitute a new therapeutic approaches are valuable and have important role [13-16]. Now medicinal plants and their derivatives account for 20% of drug prescriptions in the advanced industrialized countries and 80 percent in developing countries [17-19]. Efforts to find a drug in traditional medicine for treatment of urinary stones was carried out [20, 21]. With the rapid development of synthetic drugs in many cases been replaced by medical plants. Experience shows that synthetic drugs are effective with all the attention and it became clear that many adverse impacts associated with less pure material that does not have side effects, so the use of medicinal plants has been attention [22-23].

In this regard, recognize traditional medicine in each area and use of medicinal plants in the region can play an important role in identifying new drugs of plant origin which is an alternative treatment [24]. In Iran, since ancient times, medicinal plants have been used to treat the urinary stones. The aim of this study is to make out medicinal plants and ethnobotany in different parts of Iran in traditional medicine administrative resources was used for the treatment of stones.

MATERIALS AND METHODS

The search for articles done by keyword medicinal herbs, traditional medicine, ethnobotany, kidney stones, urinary stones and Iran. Search was done in databases such as ISI, PubMed, Scopus, Mgar, ISI January and Google Scholar.

RESULTS

After collecting medicinal plants used in different parts of Iran was determined 68 medicinal plants in Ethnobotanical of Iran published on the resources of traditional medicine for the treatment of kidney stones.

List of medicinal plants effective in the treatment of urinary stones with the name of the family, used parts, used in the region's traditional effect mentioned in Table 1.

DISCUSSION

The results present introduced the most effective herbs in kidney stones and urinary tract with traditional consumption in Iran. After collecting medicinal plants information used in different parts of Iran, 68 medicinal plants was determined in Iran published on the resources of traditional medicine for the treatment of kidney stone. Quantities of these plants are common in some parts of Iran and various common effects mentioned in various parts of the Iranian traditional medicine.

The results of various studies show medicinal plants with bioactive ingredients, antioxidants, flavonoids and phenolic substances flavonoids, anthocyanins and tannins have drug effect [36-46]. Probably medicinal herbs listed in the documents Ethnobotanical of Iran also have antioxidants and bioactive which are effective in the treatment and disposal of urinary stones. Ethnobotanical studies and ethno pharmacology always is a effective way to identify plants with potential therapeutic effects on renal stones. In this regard, recognize traditional medicine in each area and use of medicinal plants in the region can play an important role in identifying new drugs of plant origin which is an alternative treatment [24]. Neonatal diseases are important now [46-62].

In Iran, since ancient times, medicinal plants have been used to treat the urinary stones. The aim of this study is to make out medicinal plants and ethnobotany in different parts of Iran in traditional medicine administrative resources was used for the treatment of stones.

Row	Scientific Name	Family Name	Persian Name	Part of use	Treatment effect	Province
1	<i>Allium Akaka</i> Gmel.	Aliaceae	Loosha	Pedicle	kidney stone	West Azerbaijan [25]
2	<i>Piruscommunis</i> L.	Rosaceae	Herme	Fruit	kidney stone	West Azerbaijan [25]
3	<i>Rosa canina</i> L.	Rosaceae	Shilan	Flower	kidney stone	West Azerbaijan [25]
4	<i>Urticadioica</i> L.	Urticaceae	Ghazane	Leaf	kidney stone	West Azerbaijan [25]
5	<i>Adiantumcapillus-veneris</i> L.	Polypodiaceae	Kamar Avizeh	Flower&Leaf	kidney stone	Ilam[26]
6	<i>Alhagipersarum</i> Boiss. & Buhse.	Fabaceae	Kharshotor	Pedicle&Leaf	kidney stone	Ilam[26]
7	<i>Allium akaka</i> Gmelin.	Aliaceae	Vallak	Bulbs&Leaf	kidney stone	Ilam[26]
8	<i>Allium ampeloprasum</i> L. subsp. <i>iranicum</i> Wendelbo	Aliaceae	Tare Kouhi	Leaf	kidney stone	Ilam[26]
9	<i>Amygdalusarabica</i> Olivier.	Rosaceae	Badam Kouhi	Fruit	kidney stone	Ilam [26]
10	<i>Cerasusmahaleb</i> (L.) Miller.	Rosaceae	Mahlab	Fruit	kidney stone	Ilam [26]
11	<i>Cerasusmicrocarpa</i>	-	Albalouye Vahshi	Fruit	kidney stone	Ilam [26]
12	<i>Gundeliatournefortii</i> L.	Asteraceae	Kanghar	Leaf&Pedicle	kidney stone	Ilam [26]
13	<i>Noaeamucronata</i> (Forssk.) Asch & Schweinf.	Chenopodiaceae	Nakhone Aroos	Flower&Leaf	kidney stone	Ilam [26]
14	<i>Petroselinumhortense</i>	Apiaceae	Jaffari	Fruit&Leaf	kidney stone	Kerman [27]
15	<i>Cichoriumintybus</i>	Asteraceae	Kasni	Leaf&Pedicle	kidney stone	Persian Gulf [28]
16	<i>Alhagipersarum</i>	Papilionaceae	Kharshotor	Aerial	kidney stone	Persian Gulf [28]
17	<i>Peganumharmala</i>	Zygophyllaceae	Espand	Flower	kidney stone	Persian Gulf [28]
18	<i>Allium cepa</i> L.	Amaryllidaceae	Piaz	Bulbs	kidney stone	Khuzestan [29]
19	<i>Petroselinumcrispum</i>	Apiaceae	Jaffari	Leaf&Fruit	kidney stone	Khuzestan [29]
20	<i>Gundeliatournefortii</i> L.	Asteraceae	Kanghar	Pedicle	kidney stone	Khuzestan [29]
21	<i>Descurainiasophia</i>	Brassicaceae	Khkeshir	Seed	kidney stone	Khuzestan [29]
22	<i>Raphanussativus</i> L.	Brassicaceae	Toroup	Roots	kidney stone	Khuzestan [29]
23	<i>Linumsitatissimum</i> L.	Linaceae	Katan	Seed	kidney stone	Khuzestan [29]
24	<i>Astragalushamosus</i> L.	Papilionacea	Nakhonak	Fruit	kidney stone	[29]Khuzestan
25	<i>Faba vulgaris</i> Moenchris.	Papilionacea	Baghla	Leaf&Seed	kidney stone	Khuzestan [29]
26	<i>Amygdaluscommunis</i> L.	Rosaceae	Badame Talkh	Seed	kidney stone	Khuzestan [29]
27	<i>Lycopersicumesculentum</i> Mill.	Solanaceae	Ghoje	Flower&Leaf&Fruit	kidney stone	Khuzestan [29]
28	<i>Alhagipersarum</i> Boiss. & Buhse.	Fabaceae	Kharshotor	Flower&Pedicle&Leaf	kidney stone	Sistan and Baluchestan [30]
29	<i>Rubiatinctorum</i> L.	Rubiaceae	Ronas	Roots	kidney stone	Sistan and Baluchestan [30]
30	<i>Nasturtium officinale</i> (L.) R. Br.	Brassicaceae	Allafe Cheshme	-	Urinary tract stones	Kazeroun [31]
31	<i>Alhagicamelorum</i> Fisch.	Fabaceae	Kharshotor	-	kidney stone	Kazeroun [31]
32	<i>Tribulusterrestris</i> L.	Zygophyllaceae	Kharkhsak	-	kidney stoneBladder&	Kazeroun [31]
33	<i>Achilleasantolina</i>	Asteraceae	Bomadaran	Flower	Urinary tract stones	Mobarakeh [32]
34	<i>Matricariaecutita</i> L.	Asteraceae	baboonah	Flower	Urinary tract stones	Mobarakeh[32]
35	<i>Cuminumcyminum</i> L.	Apiaceae	Zire sabz	Fruit	Urinary tract stones	Mobarakeh[32]
36	<i>Nigella sativa</i> L.	Ramnaceae	Siah daneh	Seed	Urinary tract stones	Mobarakeh[32]
37	<i>Raphanussativus</i> L.	Brassicaceae	Torobe siah	Roots	Urinary tract stones	Mobarakeh[32]
38	<i>Zea mays</i> L.	Poaceae	Zorrat	Seed	Urinary tract stones	Mobarakeh[32]
39	<i>Plantagopsyllium</i> L.	Plantaginaceae	Esfarzeh	Seed	Urinary tract stones	Mobarakeh[32]

40	<i>Linum usitatissimum</i> L.	Linaceae	Katan	Seed	Urinary tract stones	Mobarakeh[32]
41	<i>Tribulusterrestris</i> L.	Zygophyllaceae	Kharkhasak	Roots	Urinary tract stones	Mobarakeh[32]
42	<i>Prunus cerasus</i> L.	Rosaceae	Albaloo	Flower	Urinary tract stones	Mobarakeh[32]
43	<i>Foeniculum vulgare</i> Mill	Apiaceae	Raziane	Seed	Urinary tract stones	Mobarakeh[32]
44	<i>Cousinia aalexandrina</i> Bomm.	Asteraceae	Hezar khar	Flower&Leaf	kidney stone	Kashan Natanz[33]
45	<i>Berberis integrifolia</i>	Berberidaceae	Zereshk	Fruit	kidney stone	Lorestan[34]
46	<i>Capsella bursa</i>	Brassicaceae	Hendevane	Leaf&Fruit	kidney stone	Lorestan[34]
47	<i>Nasturtium officinale</i>	Brassicaceae	Alafe cheshmeh	Leaf	kidney stone	Lorestan[34]
48	<i>Nectaroscordum tripedale</i> N. coelzi	Alliaceae	Piaze Tabestani	Leaf&Plantbulbs	kidney stone	Lorestan[34]
49	<i>Satureja macrosiphon</i>	Lamiaceae	Marzeh	Pedicel&Leaf	kidney stone	Lorestan[34]
50	<i>Tragopogon caricifolius</i>	Asteraceae	Sheng	-	kidney stone	Lorestan[34]
51	<i>Ulmus minor</i>	Ulmaceae	Vazm	Roots&Leaf	kidney stone	Lorestan[34]
52	<i>Zea mays</i> L.	Graminae	Zorrat	Crested plant	kidney stone	Lorestan[34]
53	<i>Alhag camelorum</i> Fisch	Fabaceae	Kharshotor	Aerial	kidney stone	Orumieh[34]
54	<i>Alyssum desertorum</i> Stapf.	Brassicaceae	Ghodome	Seed	kidney stone	Orumieh[35]
55	<i>Amaranthus blitoides</i> S. watson.	Amaranthaceae	Taj khourous	Aerial	kidney stone	Orumieh[35]
56	<i>Capsella bursa-pastoris</i> (L.) Medik.	Brassicaceae	Kise Keshish	Aerial	kidney stone	Orumieh[35]
57	<i>Cerasus microcarpa</i> (C.A.Mey.) Boiss.	Rosaceae	Albaloo	Fruit	kidney stone	Orumieh[35]
58	<i>Equisetum arvense</i> L.	Equisetaceae	Dome asb	Aerial	kidney stone	Orumieh[36]
59	<i>Fraxinus excelsior</i> L.	Oleaceae	Zaban Ghnjeshk	Leaf	kidney stone	Orumieh[36]
60	<i>Haplophyllum buxbaumii</i> (Poir.) G. Don	Rutaceae	Sedab	Aerial	kidney stone	Orumieh[36]
61	<i>Lamium album</i> L.	Lamiaceae	Ghazane Sephid	Flower	kidney stone	Orumieh[36]
62	<i>Ononis spinosa</i> L.	Fabaceae	Anghoshte Aroos	Plantbulbs•Leaf•Flower	kidney stone	Orumieh[36]
63	<i>Polygonum aviculare</i> L.	Polygonaceae	Alaphe Haft Band	Aerial	kidney stone	Orumieh[36]
64	<i>Rosa canina</i> L.	Rosaceae	Nastaran	Fruit	kidney stone	Orumieh[36]
65	<i>Rosa foetida</i> Hermam	Rubiaceae	Nastaran Zard	Flower& Leaf	kidney stone	Orumieh[36]
66	<i>Muscarine neglectum</i> Guss.	Liliaceae	Kalaghak	Plantbulbs	kidney stone	Orumieh[36]
67	<i>Tribulusterrestris</i> L.	Zygophyllaceae	Kharkhasak	Aerial	kidney stone	Orumieh[36]
68	<i>Xeranthemum longipapposum</i> Fisch. & C.A.Mey.	Asteraceae	Aroose sahraei	Aerial	kidney stone	Orumieh[36]

Table 1. Scientific name, family, fitness, using traditional and regional effects used in Iran

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