

Medicinal Plants Used For Kidney Pain

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Abstract

Today, diseases of the kidney and urinary tract are common and cause suffering to the people. Kidney disease is one of the diseases that are associated with pain, which causes pain and discomfort in patients. Identification, production and use of anti-inflammatory medicines for pain relief have been reported as the side effects. Medicinal herbs contain active substances that have a therapeutic effect on the kidney and urinary tract system. Since, in Iranian traditional and ethnobotanical medicine, medicinal herbs are used for the treatment of pain caused by kidney diseases and disorders, the aim of this study is to identify and report on Iranian native medicinal plants affecting kidney pain. In this study, at first, the search was done by keywords such as kidney pain, medicinal herbs, extracts, essences and Iran from scientific databases and databases such as Google Scholar, SID, etc. Related articles were selected for review. After reviewing the results, it was found that 40 Iranian herbs are used to reduce kidney pain. Medicinal herbs of this review paper are of the herbs effective in reducing kidney pain in which the impact it is through pharmaceutical active ingredients and bioactive compound.

Keywords: Kidney, Kidney pain, Medicinal herbs, Iran

INTRODUCTION

Pain is one of the problems that occurs in many diseases [1]. Pain occurs at tissue damage, which causes the reaction of the person for the removal of painful stimuli so that we can say that the pain is an emotional and sensory response [2]. Chronic pain is a pain that has been continued at least for three months during the last six months [3]. Chronic pain often interfere with the ability of the person to perform various activities of life [4,5]. However, in many studies, pain and physical injury are considered as important predictors of disability [6]. Opioid drugs, especially morphine, have high performance in relieving acute and chronic pain, but frequent use of morphine reduces its effects gradually [7]. Identification, production and use of chemical analgesics medicines for pain relief, have been reported as side effects [8-10]. Today, diseases of the kidney and urinary tract are common and cause suffering to the people [11-18]. Kidney disease is one of the diseases associated with pain, which causes pain and discomfort in the patients [19,20]. Due to the side effects of chemical medicines, the return to the use of medicinal herbs and herbal and natural medicines has been increasing [21-30]. Now, many studies are going towards the study of medicinal herbs in the prevention and treatment of kidney disease and the diseases associated with urogenital system [31-38]. Many of these studies suggest that the medicinal herbs have beneficial effects on kidney disease and disorders as well as urinary tract disease [39-52]. Medicinal

herbs contain active substances that have therapeutic effects on the renal and urinary tract system [53-58]. Since, in Iranian traditional and ethnobotanical medicine, medicinal herbs are used for the treatment of pain caused by kidney diseases and disorders, the aim of this study is to identify and report on Iranian native medicinal plants affecting kidney pain.

METHODOLOGY

In this study, at first, the search was done by keywords such as kidney pain, medicinal herbs, extracts, essences and Iran from scientific databases and databases such as Google Scholar, SID, etc. Related articles were selected for review.

RESULTS

The number of identified plants

According to the results obtained, 40 herbs including yarrow, horsetail, barberry, veneris, Physalis alkekengi, Ilami onobrychis, Tribulus terrestris, parsley, camel thorn, jujube, chamomile, licorice, Silybum marianum, etc. are medicinal herbs effective in reducing kidney pain.

Additional information on medicinal plants

Additional results are shown in Table 1.

Table 1. Iranian medicinal herbs with kidney analgesic effect

Raw	Scientific name	Family name	Persian name	Usage	Used organs	Therapeutic effect	Region
1	<i>Amygdalus orientalis</i>	Rosaceae	Arzhan	Decoction	-	Kidney pain	Abadeh [59]
2	<i>Achila mellifolium</i>	Asteraceae	Boumadaran	Decoction	-	Kidney pain	Abadeh [59]
3	<i>Berberis vulgaris L.</i>	Berberidaceae	Zereshk	Decoction	Fruit and Leaf	Kidney pain	Arasbaran [60]
4	<i>Equisetum arvense</i>	Equisetaceae	Domeasb	Decoction	Aerial part	Kidney pain	Arasbaran [60]
5	<i>Adiantum capillus-veneris L.</i>	Polypodiaceae	Paresiavashan	Decoction	Flowers and shoot	Kidney pain	Ilam [61]
6	<i>Alhagi persarum Boiss. & Buhse.</i>	Fabaceae	Kharshotor	Decoction	Flowers and shoot	Kidney pain	Ilam [61]
7	<i>Lycium depressum Stocks.</i>	Solanaceae	Gorjtigh	Decoction	Leaf and Fruit	Kidney pain	Ilam [61]
8	<i>Onobrychis elymaitica</i>		Esperes ilami	Decoction	Leaf and shoot	Kidney pain	Ilam [61]
9	<i>Physalis divaricata D. Don</i>	Solanaceae	Araousake poshtepardeh	Decoction	Fruit	Kidney pain	Ilam [61]
10	<i>Salvia sclarea L.</i>	Lamiaceae	-	Decoction	-	Kidney pain	South east of Iran [62]
11	<i>Adonis aestivalis L.</i>	Ranunculaceae	Teriako	Decoction	-	Kidney pain	South east of Iran [62]
12	<i>Tribulus terrestris L.</i>	Zygophyllaceae	Kharkhasak	Decoction		Kidney pain caused by kidney stones	South east of Iran [62]
13	<i>Allium haemanthoides</i>	Amaryllidaceae	Ben sorkh	Decoction	Aerial part	Kidney pain	Khuzistan [63]
14	<i>Petroselinum crispum</i>	Apiaceae	Jafari	Decoction	Fruits and leaves	Kidney pain	Khuzistan [63]
15	<i>Hyoscyamus orthocarpus</i>	Solanaceae	Bazr albanj	Decoction	-	Kidney pain	Khuzistan [63]
16	<i>Adonis aestivalis L.</i>	Ranunculaceae	Cheshmkhorous tabestani	Decoction	Aerial part	Kidney pain caused by kidney stones	Dastena [64]
17	<i>Centaurea persica Boiss.</i>	Astraceae	Gole gandom	Decoction	Flower	Kidney pain caused by kidney stones	Dastena [64]
18	<i>Malva neglecta</i>	Malvaceae	Panirak	Decoction	Flower	Kidney pain caused by kidney stones	Sirjan [65]
19	<i>Alhagi persarum Boiss. & Buhse.</i>	Fabaceae	Kharshotor	Decoction	Leaf, Fruit and Flower	Kidney pain caused by kidney stones	Sistan [66]
20	<i>Zizyphus jujuba</i>	Rhamnaceae	Anab	Decoction	Fruit	Kidney pain	Sistan [66]
21	<i>Ixilirion tataricum</i>	Ixoliaceae	Khiiarak	Decoction	Inflorescence	Kidney pain	East of Persian golf [67]
22	<i>Physalisdivaricata</i>	Solanaceae	Arosakeposht pardeh	Decoction	Fruit	Kidney pain	Fasa [68]
23	<i>Tribulus terrestris L.</i>	Zygophyllaceae	Kharkhasak	Decoction	-	Kidney pain	Kazeroun [69]
24	<i>Nasturtium officinale</i>	Brassicaceae	Beklo	Decoction	Leaf	Kidney pain caused by kidney stones	Kohgilouyeh [70]
25	<i>Matricaria recutita L.</i>	Asteraceae	Babouneh	Decoction	Flower	Kidney pain caused by kidney stones	Mobarekeh Isfahan [71]
26	<i>Petroselinum crispum Mill</i>	Apiaceae	Jafari	Decoction	Root	Kidney pain caused by kidney inflammation	Mobarekeh Isfahan [71]
27	<i>Alhagi camelorum Fisch.</i>	Fabaceae	Kharshotor	Decoction	-	Kidney pain	Maraveh [72]
28	<i>Caralluma oxyacantha</i>	Compositae	Kharkala	Decoction	Leaf	Kidney pain	Hormozgan [72]
29	<i>Tribulus macropterus Boiss.</i>	Zygophyllaceae	Nalouak	Decoction	Leaf, Fruit and Flower	Kidney pain	Hormozgan [73]
30	<i>Tribulus terrestris L.</i>	Zygophyllaceae	Kharkhasak	Decoction	Leaf	Kidney pain	Hormozgan [73]
31	<i>Ceratocephalus falcata</i>	Ranunculaceae	-	Decoction	Aerial part	Kidney pain	Hamedan [74]
32	<i>Alhagi persarum</i>	Fabaceae	Kharshotor	Decoction	Root	Kidney pain	Lorestan [75]
33	<i>Dracocephalum imberbe</i>	Lamiaceae	Badranjbouyeh	Decoction	Stem and Leaf	Kidney pain	Lorestan [75]
34	<i>Glycyrrhiza glabra</i>	papilionacea	Shirin bian	Decoction	Root	Kidney pain	Lorestan [75]
35	<i>Heracleum persicum</i>	Apiaceae	Golpar	Decoction	Leaf and Flower	Kidney pain	Lorestan [75]
36	<i>Matricaria aurea</i>	Asteraceae	Babouneh	Decoction	Flower	Kidney pain	Lorestan [75]
37	<i>Rosa damascena</i>	Rocaceae	Roz	Decoction	Fruit	Kidney pain	Lorestan [75]
38	<i>Silybum marianum</i>	Asteraceae	Kharmaryam	Decoction	Flower	Kidney pain	Lorestan [75]
39	<i>Stachys lavandulifolia</i>	Lamiaceae	Chaye kouhi	Decoction	Flower	Kidney pain	Lorestan [75]
40	<i>Tribulus terrestris</i>	Zygophyllaceae	Kharkhasak	Decoction	Seed	Kidney pain	Lorestan [75]

DISCUSSION

Many people are suffering from chronic kidney disease, but are unaware of their condition. Early symptoms of kidney disease seem so minor and unimportant, so, people may live many years with these symptoms and do not complain, but these small problems can lead to kidney failure [55,57]. Moreover, Kidney is susceptible to many other diseases or toxic agents [76].

Natural and medicinal herbs are naturally rich in active substances, and have fewer side effects because they have a natural origin and are more compatible with the organism of the body. They also have multiple functions and can be used for multiple diseases [77-80]. In this review, it was found that yarrow, horsetail, barberry, veneris, *Physalis alkekengi*, *Ilami onobrychis*, *Tribulus terrestris*, parsley, camel thorn, jujube, chamomile, licorice, *Silybum marianum*, etc. are medicinal herbs effective in reducing kidney pain. They probably reduce kidney pain through different mechanisms such as stimulation and blocking of pain receptors. In addition, these herbs have phenolic, flavonoids, anthocyanins, antioxidant substances that reduce pain by affecting pain receptors [55,81,82]. It seems that the medicinal herbs in this study or other studies have bioactive and antioxidant compounds which can lead to improvement in the kidney or other oxidative stress induced complications [83-95]. These plants other than relieving pain can protect the kidney from injury [83-88]. Hence, other plants with antioxidant activity [96-106] might have the same effects which worth examining.

AUTHORS CONTRIBUTION

This work was carried out in collaboration among all authors.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

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