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Natural remedies effective on stomachache in traditional medicine

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Abstract

Stomach ache is one of the most chronic and debilitating abdominal pains. Medicinal plants are one of the most accessible sources for treating diseases like gastrointestinal disorders. In this review, we investigate and report the most important medicinal plants recommended by Persian medicine for treating stomach aches and comparing them with their proven effects in modern medicine. Gastric pain was probed in Persian medicine reliable textbooks such as Cannon of Medicine (Ibn Sina), Tibbe-Akbari (Muhammad Akbar Arzaani), The Complete Art of Medicine (Kitab Kamil as-Sinaa at-tibbiyya) (Haly Abbas), Explanation of insults and signs (Kermani) Tohfeh Al-Mo'menin (Seyed Mohammad Momen Tonekaboni), and some notes were taken. The results showed that *Panicum miliaceum, Punica granatum, Solanum nigrum, Calicotome spinosa, Tamarindus indica, Cuminum cyminum, Prunus domestica, Matricaria recutita, Viola odorata, Plantago psyllium, Berberis vulgaris, Pyrus communis, Linum usitatissimum, Vitis vinifera* were the most important plant sources used in treating the stomach ache according to Persian medicine. The findings of this study showed that the useful effects of many recommended plants in Persian medicine are confirmed by recent scientific researches and are reliable.

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Introduction

Stomach ache is one of the most important pains that all people have experienced during their lives at least once. It is one of the most chronic and debilitating abdominal pains [1,2]. In many cases, the cause of stomach ache is unclear. But, a wide range of factors can cause pain in the abdomen. These causes include Helicobacter pylori, maldigestion, irritable bowel syndrome, gastric reflux, gastric ulcer, etc. [3,4]. The reason for stomach pain can be anxiety, stress, delay eating in hunger and prolonged starvation [5,6]. There are other reasons for stomach ache including increased gastric acidity, food poisoning, food allergy, stress-induced nerve pain, stomach infections, menstruation, and even myocardial infarction [7]. Today, the use of medicinal plants is increasing rapidly. By using medicinal plants, complications of using chemical drugs can be prevented [8-12]. Stomach ache is often accompanied by certain symptoms including fever, vomiting, loss of appetite, inability to eat, and cramps. [13-18]. Recent documents showed that gastrointestinal problems such as stomach aches or stomach upset can be treated with medicinal plants [7]. Knowing the attitude of the ancient Persian medicine scholars in treating stomach aches by medicinal plants can be a good guide for planners and policymakers of the pharmaceutical industry in the world. Therefore, in this review, we investigate the most important medicinal plants affecting stomach ache in Persian medicine and comparing them with their proven effects in modern medicine.

Methodology

Gastric pain was probed in Persian medicine reliable textbooks such as Cannon of Medicine (Ibn Sina), Tibbe-Akbari (Muhammad Akbar Arzaani), The Complete Art of Medicine (Kitāb Kāmil as-Sināʾa at-tibbiyya) (Haly Abbas), Explanation of insults and signs (Kermani) Tohfeh Al-Mo'menin (Seyed Mohammad Momen Tonekaboni), and some notes were taken.

Results

The results of the review of Persian medicine showed that the medicinal plants *Panicum miliaceum, Punica granatum, Solanum nigrum,*

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Calicotome spinosa, Tamarindus indica, Cuminum cyminum, Prunus domestica, Matricaria recutita, Viola odorata, Plantago psyllium, Berberis vulgaris, Pyrus communis, Linum usitatissimum, Vitis vinifera and a number of other medicinal plants were the most important plant source used in treating the stomach ache according to Persian medicine. A complete list of medicinal plants and complementary information is presented in Table 1.

Table 1. Medicinal plants effective on stomach ache in traditional medicine

Scientific name (Herbal)	Herbal family	Domestic name	Figure
Panicum miliaceum	Poaceae	Arzan	
Punica granatum	Lythraceae	Anar	
Solanum nigrum	Solanaceae	Tajrizi	
Calicotome spinosa	Fabaceae	Darolshieian	
Tamarindus indica	Fabaceae	Tamre hendi	
Cuminum cyminum	Apiaceae	Zireh	
Prunus domestica	Rosaceae	Alou	
Matricaria recutita	Asteraceae	Babouneh	
Viola odorata	Violaceae	Banafsheh	
Plantago psyllium	Plantaginaceae	Esfarzeh	
Berberis vulgaris	Berberidaceae	Zereshk	
Pyrus communis	Rosaceae	Golabi	
Linum usitatissimum	Linaceae	Katan	
Vitis vinifera	Vitaceae	Qoureh	

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Scientific name (Herbal)	Herbal family	Domestic name	Figure
Laurus nobilis	Lauraceae	Hobolqar	
Pimpinella anisum	Apiaceae	Anison	
Hyoscyamus niger	Solanaceae	Bazrolbanj	
Cinnamomum zeylanicum	Lauraceae	Darchin	
Cucurbita pepo	Cucurbitaceae	Kadou	
Coriandrum sativum	Apiaceae	Geshniz	
Aristolochia longa	Aristolochiaceae	Zaravandtavil	
Mentha piperata	Lamiaceae	Naena	

Scientific name (Herbal)	Herbal family	Domestic name	Figure
Portulaca oleracea	Portulacaceae	Khorfeh siah	
Rheum ribes	Polygonaceae	Rivas	
Elettaria cardamomum	Zingiberaceae	Hel	
Zingiber officinale	Zingiberaceae	Zanjabil	
Citrus bergamia	Rutaceae	Toranj	

Discussion

Traditional medicine in the world has been used through the majority of the world population since ancient times [26,27]. The World Health Organization (WHO) has suggested that more than 80% of people in developing countries, particularly in rural and remote areas are using traditional medicinal, especially medicinal plants for their primary health care [28]. Considerable economic benefits seem to be the main reason in the use of medicinal plants and indigenous medicine for treatment and prevention of diseases. Poverty, communication difficulties and the unavailability of sophisticated modern health facilities are the most important reasons to force people to use traditional medicines for their diseases. The knowledge for uses medicinal plants against various diseases seems to be accumulated in areas where the consumption of herbal medicines is still important and continued, greatly [29-32]. An important issue in the use of medicinal plants is that a plant is usually used for several diseases [33-36]. For example, Azadirachta indica other than stomachache is also used against skin diseases, smallpox, rheumatism, etc.

Medicinal plants reduce stomach ache by various mechanisms including antibacterial, anti-inflammatory, analgesic, anticholinergic and antioxidant effects. The points that have been considered in Persian medicine about stomach aches seem to have been

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completed from one period to another, and this knowledge has passed through the natural course of its transformation, which includes promotion and revision of the knowledge about herbal medicine. Taking this theory into account, it is necessary to carry out more experimental clinical studies to examine the authentic texts on Persian medicine in order to provide this knowledge to modern science and clinical pharmacology.

Two common reasons for stomach ache are inflammatory diseases and infections. Therefore, other than the plants presented here, any plant with antimicrobial [37-40] or anti-inflammatory activity [41-45] may have beneficial effects in stomachache. Stomach disorders like other pain associated disorders are related to oxidative stress [46]. Pomegranate extract (Punica granatum L.) reduces central and peripheral activity to relieve pain. Pomegranate extract protects from gastric injury and gastric lesions induced by indomethacin and ethanol respectively, the results confirm the benefits of pomegranate polyphenolics in the cure of pain and anti-inflammatory properties [47]. Chamomile (Matricaria chamomilla L., Asteraceae) is a herbal plant used as a remedy for pain and gastric disorders [48]. The results of a study indicated antiulcerogenic activity of 20% and 40% aqueous extracts of Laurus nobilis seeds and also in the oils of the seeds [49]. The fiber of psyllium decreases the number of abdominal pain episodes with IBS (in children) [50]. Results a study indicated fixed oil of L. usitatissimum (flaxseed/linseed) inhibited Inflammation induced by PGE2-, leukotriene-, histamine- and bradykinin, this oil also inhibited induced inflammation by arachidonic acid [51]. Peppermint reduces abdominal pain [52]. Hyoscyamus niger seeds have anti-inflammatory and analgesic effects [53]. The results of one study showed that Portulaca varieties also have some of the traditional uses claimed of wild species to relieve inflammation and pain [54]. The aqueous and ethanolic extracts of C. sativumseeds it had a good effect on analgesic and anti-inflammatory activities [55]. Extract of rhizome Zingiber officinale was examined for its analgesic and anti-inflammatory properties in albino rats, the results of this study showed that this extract had analgesic and anti-inflammatory properties [56]. The results of a study showed that Solanum nigrum berries may exert a protective effect on the stomach by a free radical scavenging action [57]. Tamarindus indica L. aqueous fruit extract inhibited the writhing test and hot plate test in a dose-dependent manner [58]. Therefore, medicinal plants that have antioxidant activities may be useful in these patients. If it is through, these plants which have antioxidant activities may have done their effects, in part through this mechanism. Furthermore, other plants with antioxidant activity [59-61] might be beneficial in this group of patients.

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Authors' contributions

HGH and NA searched and reviewed the literature and HGH and SSH prepared the first draft of manuscript; HGH and NA helped in preparing final draft of manuscript, checked and corrected the grammar. All authors read and approved the final report.

Conflict of interests

All authors declare that no conflict of interest exist.

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