



Overview of medicinal plants used for cardiovascular system disorders and diseases in ethnobotany of different areas in Iran

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ABSTRACT

Background and Aims: Today, cardiovascular diseases are the prominent cause of death in industrialized countries which include a variety of diseases such as hypertension, hyperlipidemia, thromboembolism, coronary heart disease, heart failure, etc. Recent research findings have shown that not only the extent of cultivation and production of medicinal plants have not been reduced, but also day-to-day production and consumption have increased. In traditional botanical knowledge, herbal medicines are used for the treatment of cardiovascular disorders. In this study, we sought to gather and report medicinal plants used to treat these diseases in different regions of Iran.

Methods: The articles published about ethnobotanical study of cardiovascular diseases in various regions of Iran, such as Arasbaran, Sistan, Kashan, Kerman, Isfahan Mobarakeh, Lorestan and Ilam were prepared and summarized.

Results: The results of ethnobotanical studies of various regions of Iran, such as Arasbaran, Sistan, Kashan, Kerman, Isfahan Mobarakeh, Lorestan and Ilam were gathered. The results showed that sumac plants, barberry, yarrow, wild cucumber, horsetail, Eastern grape, hawthorn, wild rose, spinach, jujube, buckwheat, chamomile, chicory, thistle, Mary peas, nightshade, verbena, sorrel, cherry, citrullus colocynthis, Peganum harmala, sesame and so many other plants are used for the treatment of cardiovascular diseases and disorders.

Conclusion: Herbal medicines are used effectively for some cardiovascular diseases. Rigorous training of patients to take precautions and drug interactions into account and to avoid the arbitrary use of medicinal plants is very important.

Implication for health policy/practice/research/medical education:

Medicinal plants are used effectively for some cardiovascular diseases. Cautious about drug interactions and side effects of medicinal plants is very important.

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Introduction

Studies show that cardiovascular diseases are currently the leading cause of death in industrialized countries. Documented reports indicate that cardiovascular diseases in the United States led to death of 950 000 people in 1998 and spending of 118 billion dollars (1). Cardiovascular diseases include a broad range of diseases, including hypertension, hyperlipidemia, thromboembolism, coronary

heart disease, heart failure, etc (2-4). Hyperlipidemia is a predisposing factor for many diseases that can cause complications such as atherosclerosis, hypertension, increased risk of stroke and fatty liver (5,6). Hypertension is the most common disorder and is known as a risk factor for the diagnosis of myocardial infarction, stroke, peripheral vascular disease, and a major factor in the development of cardiovascular disease and mortality (7-9). Pathophysi-

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ological disorders such as type 2 diabetes occur due to impaired insulin secretion, insulin resistance, and over-production of glucose by the liver (10). The usage of natural herbs increased because of beneficial effects of herbs and easier return to nature in comparison to chemical drugs (11-22). In some countries, 80% of the drugs supplied to the pharmaceutical market have natural origin, so that now 90% of people in these countries use herbal medicines (23-34). Recent research findings have shown that not only the extent of cultivation and production of medicinal plants have not been reduced, but also day-to-day production and consumption have increased (35-42). In traditional botanical knowledge, herbal medicines are used for the treatment of cardiovascular disorders. In this study, we tried to gather medicinal plants used to treat these diseases in different parts of Iran.

Methods

The articles published about ethnobotanical study of cardiovascular diseases in various regions of Iran, such as Arasbaran, Sistan, Kashan, Kerman, Isfahan Mobarakeh, Lorestan and Ilam were prepared and summarized.

Results

The findings on native medicinal plants used for the treatment of cardiovascular disorders in different areas of Iran

including Arasbaran, Sistan, Kazeroon, Kashan, Kerman, Isfahan (Mobarakeh), Ilam and Lorestan are respectively summarized in Tables 1 to 8.

Conclusion

The herbal medicines can be beneficial for some heart diseases. Rigorous training of patients to take precautions and drug interactions into account and to avoid the arbitrary use of medicinal plants is very important (34).

Along with the increased use of herbal medicines, useful information about the interactions of these supplements and medications should be given to the patients to prevent the complications resulting from their interactions that are sometimes very critical. There are many plants that have therapeutic effects, may prevent cardiovascular diseases, and influence hypolipidemia, blood pressure and heart failure through antioxidant, anti-clotting, hypotensive, anti-atherosclerosis, heart rate-regulating and vasodilating properties (6,7). The plants may also have a negative impact on the performance of the heart and blood vessels, including the development of arrhythmia, blood pressure and similar effects on the sympathetic nervous currents that cause interference in the activity of the heart.

Authors' contributions

All the authors contributed in design and preparation

Table 1. Medicinal plants used in the treatment of cardiovascular diseases in Arasbaran (43)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Cotinus coggygria</i>	Anacardiaceae	Derakht Par	Leaf	Astringent
<i>Rhus coriaria</i> L.	Anacardiaceae	Sumagh	Leaf and Fruit	Blood purification
<i>Berberis vulgaris</i> L.	Berberidaceae	Zereshk	Fruit	Reduction of blood pressure
<i>Achillea millefolium</i> L.	Compositae	Boomadarn	Flowering branches	Reduction of blood pressure
<i>Ecbalium elaterium</i> L.	Cucurbitaceae	Khiare Vahshi	Fruit	Reduction of blood pressure
<i>Juniperus communis</i>	Cupressaceae	Pirou	Fruit	Blood purification
<i>Equisetum arvense</i>	Equisetaceae	Dom Asb	Aerial	Diabetes
<i>Ribes orientale</i>	Grossulariaceae	Ghalesh Anghour	Fruit	Regulation of blood pressure, removal of bile
<i>Polypodium vulgare</i>	Polypodiaceae	Besfij	Rhizome	Removal of bile, fat digestion and fat reduction
<i>Portulaca oleracea</i>	Portulacaceae	Khorfeh	Aerial	Blood purification
<i>Crataegus monogyna</i>	Rosaceae	Zalzalak	Flower and Leaf	Nourishing of the heart, regulation of heart rate and blood pressure
<i>Rosa canina</i>	Rosaceae	Nastaran Vahshi	Flower and Leaf	Blood purification
<i>Fragaria vesca</i> L.	Rosaceae	Tootfarangi Vahshi	Leaf, rhizome and Fruit	Nourishing of the heart, treatment of anemia
<i>Rubus caesius</i> L.	Rosaceae	Tameshk	Fruit and Leaf	Astringent, anti-diabetic, tonic and blood purification
<i>Taxus baccata</i> L.	Taxaceae	Sorkhedar	Leaf	Reduction of blood pressure

Table 2. Medicinal herbs used in the treatment of cardiovascular diseases in Sistan (44)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Capparis spinosa</i> L.	Capparidaceae	Koor	Root	Treatment of anemia
<i>Eucalyptus camaldulensis</i> Dehnh.	Myrtaceae	Moort	Leaf	Astringent
<i>Nigella sativa</i> L.	Ranunculaceae	Siah Daneh	Fruit	Treatment of blood fat, blood pressure, diabetes
<i>Suaeda aegyptiaca</i>	Chenopodiaceae	Esfenaj	Leaf	Treatment of anemia, blood purifier
<i>Zizyphus jujube</i>	Rhamnaceae	Annab	Fruit	Blood purifier

Table 3. Medicinal plants used in the treatment of cardiovascular diseases in Kazeroon (45)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Anthemis austro-iranica</i>	Asteraceae	Babooneh	Aerial	Cardiac tonic
<i>Cichorium intybus</i> L.	Asteraceae	Kasni	Aerial	Blood purifier and cardiac tonic
<i>Silybum marianum</i>	Asteraceae	Kharmaryam	Fruit and leaf	Lowering of blood pressure
<i>Capsella bursa-pastoris</i>	Brassicaceae	Kiseh Keshish	Leaf and stem	Astringent
<i>Teucrium polium</i> L.	Lamiaceae	Maryam Nokhodi	Leaf	Diabetes, blood fat
<i>Melilotus indicus</i>	Papilionaceae	Shabdar	Leaf	Increase in venous blood
<i>Prosopis farcta</i>	Papilionaceae	Jagjege	Fruit	Anti-atherosclerosis
<i>Portulaca oleracea</i> L.	Portulacaceae	Khorfe	Aerial	Blood purification
<i>Rosa canina</i> L.	Rosaceae	Nastaran	Flower	Astringent
<i>Solanum nigrum</i> L.	Solanaceae	Tajrizi	Fruit and leaf	Diabetes and blood fat
<i>Verbena officinalis</i> L.	Verbenaceae	Shahpasand	Fruit and leaf	Blood fat

Table 4. Medicinal plants used in the treatment of cardiovascular disease in Kashan (46)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Anthemis gayana</i> Boiss.	-	Babooneh	Leaf and flower	Treatment of blocked arteries
<i>Rumex conglomerates</i> Murr	-	Torshak	Leaf and stem	Blood purification

Table 5. Medicinal plants used in the treatment of cardiovascular disease in Kerman (47)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Berberis integerrima</i>	Berberidaceae	Zereshk	Fruit	Blood purification
<i>Cerasus vulgaris</i>	Rosaceae	Albaloo	Fruit	Reduction in blood fat
<i>Citrullus colocynthis</i>	Cucurbitaceae	Hendevane Aboljahl	Fruit	Diabetes
<i>Coriandrum sativum</i>	Apiaceae	Ghashniz	Fruit	Reduction in blood fat Hypoglycemic effect
<i>Hordeumvulgare</i>	Poaceae	Joo	Fruit	Hypoglycemic effect
<i>Peganumharmala</i>	Zygophyllaceae	Esfand	Seed	Hypoglycemic effect
<i>Sesamum indicum</i>	Pedaliaceae	Konjed	Seed	Reduction in blood fat

Table 6. Medicinal plants used in the treatment of cardiovascular disease in Mobarakeh, Isfahan (48)

Scientific name	Family Name	Persian Name	Organ Used	Treatment Effect
<i>Gundelia tournefortii</i> L	Asteracea	Kangar	Leaf	Reduction in blood fat
<i>Ziziphus jujuba</i> (L) H.Karst	Rhamnaceae	Annab	Fruit	Blood purification
<i>Mentha spicata</i> L	Lamiaceae	Nana	Leaf	Reduction in blood fat
<i>Cichorium intybus</i> L	Asteraceae	Kasni	Aerial	Blood purification
<i>Rumex crispus</i> L.	Polygonaceae	Torshak	Fruit	Reduction in blood fat
<i>Arctium minus</i> Hill.	Asteraceae	Baba Adam	Root	Blood purification
<i>Anethum graveolens</i> L.	Apiaceae	Shavid	Leaf	Reduction in blood fat
<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Zanjebil	Leaf	Reduction in blood fat
<i>Trigonella foenum-graecum</i> L.	Papilionaceae	Shanbalileh	Leaf and Seed	Reduction in blood fat
<i>Senna alexandrina</i> Mill	Papilionaceae	Sana	Leaf	Reduction in blood fat
<i>Rumex crispus</i> L.	Polygonaceae	Torshak	Leaf	Reduction in blood pressure
<i>Ziziphus jujuba</i> (L) H.Karst	Rhamnaceae	Annab	Fruit	Reduction in blood pressure
<i>Olea europaea</i> L	Oleaceae	Zeytoon	Fruit	Reduction in blood pressure

Table 7. Medicinal plants used in the treatment of cardiovascular disease in Ilam (49)

Scientific name	Family	Persian name	Organ used	Treatment effect
<i>Anethum graveolens</i>	Umbelliferae	Shevid	All parts of Plant	Reduction in blood fat
<i>Cichorium intybus</i>	Asteraceae	Kasni	Root	Reduction in blood fat
<i>Lactuca sativa</i>	Compositae	Kahoo	Leaf	Reduction in blood fat
<i>Malva neglecta</i>	Malvaceae	Panirak	Leaf and Stem	Blood purification
<i>Nectaro scordeum tripedale</i> <i>N. coelzi</i>	Alliaceae	Piaz Lorestani	Aerial	Treatment of hypolipidemia
<i>Ocimum bacilicum</i>	Laminaceae	Reyhan	Leaf	Reduction in blood fat

Table 8. Medicinal plants used in the treatment of cardiovascular disease in Lorestan (50)

Scientific name	Family	Persian Name	Organ Used	Treatment Effect
<i>Citrullus colocynthis</i> (L.) Schrad.	Cucurbitaceae	Henzel	Fruit	Diabetes
<i>Crataegus pontica</i> C. Koch.	Rosaceae	Zalzalk	Fruit	Blood pressure
<i>Glycyrrhiza glabra</i> L. var. <i>glabra</i>		Shirin Bayan	Root and flower	Diabetes
<i>Gundelia tournefortii</i> L.	Asteraceae	Kangar	Leaf and stem	Diabetes
<i>Nerium oleander</i> L.	Apocynaceae	Khar Zahre	Leaf and flower	Cardiac tonic
<i>Paliurus spina-christi</i> Miller.	Rhamnaceae	Darg dar	Fruit	Blood pressure
<i>Prosopis farcta</i>	Mimosaceae	Kohorak	Fruit	Diabetes
<i>Quercus brantii</i>	Fagaceae	Baloot	Fruit	Diabetes
<i>Rheum ribes</i> L.	Polygonaceae	Rivas	Stem	Blood pressure
<i>Ulmus glabra</i> Hudson.		Vazm	Leaf	Cardiac disorders and arrhythmias
<i>Olea europea</i>	Oleaceae	Zeitoun	Leaf and seed	Blood fat control
<i>Urtica dioica</i>	Urticaceae	Ghazane	Leaf and branches	Reduction in blood fat
<i>Vitis vinifera</i>	Vitaceae	Angour	Fruit	Reduction in blood fat
<i>Morus alba</i>	Moraceae	Toot	Fruit	Reduction in glycemia
<i>Berberis integrima</i>	Berberidaceae	Zereshk	Leaf and stem	Treatment of diabetes
<i>Pistacia atlantica</i>	Anacardiaceae	Boneh	Juice	Treatment of glycemia
<i>Capparis spinosa</i>	Capparaceae	Hendevne Aboljahl	Fruit and leaf	Reduction in glycemia
<i>Urtica dioica</i>	Urticaceae	Ghazane	Branches	Reduction in glycemia
<i>Valeriana officinalis</i> L	Valerianaceae	Sonboleiteib	Fruit	Reduction in glycemia
<i>Melilotus officinalis</i>	Leguminosae	Yonje	Flower, Leaf and Stem	Reduction Blood Glucose
<i>Nectaroscordeum tripedale</i> <i>Nectaroscordeum coelzi</i>	Amaryllidaceae	Piaze Lorestani	Branches	Reduction in blood pressure
<i>Falcaria vulgaris</i>	Apiaceae	Gazayaghi	Leaf, flower and Stem	Reduction in blood pressure
<i>Smyrniium cordifolium</i>	Umbelliferae	Andool	Seed	Reduction in blood pressure
<i>Crocus hasskenechtii</i>	Iridaceae	Zaferan	Root	Reduction in blood pressure
<i>Berberis integrima</i>	Berberidaceae	Zereshk	Leaf and Stem	Reduction in blood pressure
<i>Ziziphus spina-christi</i> <i>Ziziphus nummularia</i>	Rhamnaceae	Sedr	Flower, leaf and Fruit	Reduction in blood pressure
<i>Allium ursinum</i>	Liliaceae	Sir	Bulb	Reduction in blood pressure
<i>Tragapogon caricifolius</i>	Compositae	Shang	All parts of plant	Reduction in blood pressure
<i>Anethum graveolens</i>	Umbelliferae	Shevid	All parts of plant	Reduction in blood pressure
<i>Amygdalus scoparia</i>	Rosaceae	Badam	Fruit	Reduction in blood pressure

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Conflict of interests

The authors declared no competing interests.

Ethical considerations

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References

1. Eisenberg DM, David RB, Ettner SL. Trends in alternative medicine use in the United States, 1990–1997: results of a follow-up national survey. *JAMA* 1998;280:1569-1575.
2. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser. 2000;894:1-253.

3. Khosravi-Boroujeni H, Sarrafzadegan N, Mohammadifard N, Sajjadi F, Maghroun M, Asgari S, et al. White rice consumption and CVD risk factors among Iranian population. *J Health Popul Nutr.* 2013;31(2):252-261.
4. Sadeghi M, Khosravi-Boroujeni H, Sarrafzadegan N, Asgary S, Roohafza H, Gharipour M, et al. Cheese consumption in relation to cardiovascular risk factors among Iranian adults- IHHP Study. *Nutr Res Pract.* 2014;8(3):336-41.
5. Tajfard M, Ghayour Mobarhan M, Rahimi HR, Mouhebati M, Esmaeily H, et al. Anxiety, depression, coronary artery disease and diabetes mellitus; an association study in ghaem hospital, Iran. *Iran Red Crescent Med J.* 2014;16(9):e14589.
6. Asgary S, Rafieian-Kopaei M, Shamsi F, Najafi S, Sahebkar A. Biochemical and histopathological study of the anti-hyperglycemic and anti-hyperlipidemic effects of cornelian cherry (*Cornus mas L.*) in alloxan-induced diabetic rats. *J Complement Integr Med.* 2014;11(2):63-9.
7. Baradaran A, Nasri H, Rafieian-Kopaei M. Oxidative stress and hypertension: Possibility of hypertension therapy with antioxidants. *J Res Med Sci.* 2014;19(4):358-67.
8. Vasan RS, Beiser A, Seshadri S, Larson MG, Kannel WB, et al. Residual lifetime risk for developing hypertension in middle-aged women and men: the Framingham Heart Study. *JAMA* 2002;287:1003-1010.
9. Asgary S, Sahebkar A, Afshani M, Keshvari M, Haghjooyjavanmard Sh, Rafieian-Kopaei M. Clinical evaluation of blood pressure lowering, endothelial function improving, hypolipidemic and anti-inflammatory effects of pomegranate juice in hypertensive subjects. *Phytother Res.* 2014;28(2):193-199.
10. Rafieian-Kopaei M, Behradmanesh S, Kheiri S, Nasri H. Association of serum uric acid with level of blood pressure in type 2 diabetic patients. *Iran J Kidney Dis.* 2014;8(2):152-154.
11. Bahmani M, Shirzad HA, Majlesi M, Shahinfard N, Rafieian-Kopaei M. A review study on analgesic applications of Iranian medicinal plants. *Asian Pac J Trop Med.* 2014;7(Suppl 1):43-53.
12. Bahmani M, Farkhondeh T, Sadighara P. The anti-parasitic effects of *Nicotina tabacum* on leeches. *Comp Clin Pathol.* 2012;21(3):357-359.
13. Bahmani M, Karamati SA, Banihabib EK, Saki K. Comparison of effect of nicotine and levamisole and ivermectin on mortality of leech. *Asian Pac J Trop Dis.* 2014;4(Suppl 1):477-480.
14. Delfan B, Bahmani M, Rafieian-Kopaei M, Delfan M, Saki K. A review study on ethnobotanical study of medicinal plants used in relief of toothache in Lorestan Province, Iran. *Asian Pac J Trop Dis.* 2014;4(Suppl 2):879-884.
15. Bahmani M, Banihabib EK. Comparative assessment of the anti-annelida (*Limnatis nilotica*) activity of Nicotine with Niclosamide. *Global Veterinaria.* 2013;10(2):153-157.
16. Amirmohammadi M, Khajoenia SH, Bahmani M, Rafieian-Kopaei M, Eftekhari Z, Qorbani M. In vivo evaluation of antiparasitic effects of *Artemisia abrotanum* and *Salvia officinalis* extracts on *Syphacia obvelata*, *Aspiculoris tetrapetra* and *Hymenolepis nana* parasites. *Asian Pac J Trop Dis.* 2014;4(Suppl 1):250-254.
17. Bahmani M, Eftekhari Z. An ethnoveterinary study of medicinal plants in treatment of diseases and syndromes of herd dog in southern regions of Ilam province, Iran. *Comp Clin Path.* 2012;22:403-407.
18. Eftekhari Z, Bahmani M, Mohsenzadegan A, Gholami-Ahangaran M, Abbasi J, Alighazi N. Evaluating the anti-leech (*Limnatis nilotica*) activity of methanolic extract of *Allium sativum L.* compared with levamisole and metronidazole. *Comp Clin Path.* 2012;21:1219-1222.
19. Bahmani M, Abbasi J, Mohsenzadegan A, Sadeghian S, Gholami-Ahangaran M. *Allium sativum L.*: the anti-mature leech (*Limnatis nilotica*) activity compared to Niclosamide. *Comp Clin Path.* 2013;22:165-168.
20. Sarrafchi A, Bahmani M, Shirzad H, Rafieian-Kopaei M. Oxidative stress and Parkinson's disease: New hopes in treatment with herbal antioxidants. *Curr Pharm Des.* 2015 Nov 12.
21. Gholami-Ahangaran M, Bahmani M, Zia-Jahromi N. Comparative and evaluation of anti-leech (*Limnatis Nilotica*) effect of Olive (*Olea Europaea L.*) with levamisole and tiabendazole. *Asian Pac J Trop Dis.* 2012;2(1):S101-S103.
22. Bahmani M, Golshahi H, Mohsenzadegan A, Gholami-Ahangaran M, Ghasemi E. Comparative assessment of the anti-*Limnatis nilotica* activities of *Zingiber officinale* methanolic extract with levamisole. *Comp Clin Pathol.* 2013;22(4):667-670.
23. Forouzan S, Bahmani M, Parsaei P, Mohsenzadegan A, Gholami-Ahangaran M. Anti-parasitic activities of *Zingiber officinale* methanolic extract on *Limnatis nilotica*. *Glob Vet.* 2012;9(2):144-148.
24. Gholami-Ahangaran M, Bahmani M, Zia-Jahromi N. In vitro antileech effects of *Vitis vinifera L.*, niclosamide and ivermectin on mature and immature forms of leech *Limnatis nilotica*. *Glob Vet.* 2012;8:229-232.
25. Bahmani M, Zargarani A, Rafieian-Kopaei M. Identification of medicinal plants of Urmia for treatment of gastrointestinal disorders. *Rev Bras Farmacogn.* 2014;24(4):468-448.
26. Bahmani M, Banihabib EK, Rafieian-Kopaei M, Gholami-Ahangaran M. Comparison of disinfection activities of nicotine with copper sulphate in water containing *Limnatis nilotica*. *Kafkas Univ Vet Fak*

- Derg. 2015;21(1):9-11.
27. Delfan B, Bahmani M, Eftekhari Z, Jelodari M, Saki K, Mohammadi T. Effective herbs on the wound and skin disorders: a ethnobotanical study in Lorestan province, west of Iran. *Asian Pac J Trop Dis.* 2014; 4(Suppl 2):938-942.
 28. Bahmani M, Saki K, Rafieian-Kopaei M, Karamati SA, Eftekhari Z, Jelodari M. The most common herbal medicines affecting *Sarcomastigophora* branches: a review study. *Asian Pac J Trop Med.* 2014;7(Suppl 1): 14-21.
 29. Asadi-Samani M, Bahmani M, Rafieian-Kopaei M. The chemical composition, botanical characteristic and biological activities of *Borago officinalis*: a review. *Asian Pac J Trop Med.* 2014;7(Suppl 1):22-28.
 30. Bahmani M, Zargaran A, Rafieian-Kopaei M, Saki M. Ethnobotanical study of medicinal plants used in the management of diabetes mellitus in the Urmia, Northwest Iran. *Asian Pac J Trop Med.* 2014;7(Suppl 1):348-354.
 31. Delfan B, Bahmani M, Hassanzadazar H, Saki K, Rafieian-Kopaei M. Identification of medicinal plants affecting on headaches and migraines in Lorestan Province, West of Iran. *Asian Pac J Trop Med.* 2014; 7(Suppl 1): 376-379.
 32. Bahmani M, Rafieian-Kopaei M, Hassanzadazar H, Saki K, Karamati SA, Delfan B. A review on most important herbal and synthetic antihelmintic drugs. *Asian Pac J Trop Med.* 2014;7(Suppl 1):29-33.
 33. Saki K, Bahmani M, Rafieian-Kopaei M. The effect of most important medicinal plants on two important psychiatric disorders (anxiety and depression)-a review. *Asian Pac J Trop Med.* 2014;7(Suppl 1):34-42.
 34. Sewell RD, Rafieian-Kopaei M. The history and ups and downs of herbal medicine usage. *J HerbMed Pharmacol.* 2014;3(1):1-3.
 35. Asadbeigi M, Mohammadi T, Rafieian-Kopaei M, Saki K, Bahmani M, Delfan B. Traditional effects of medicinal plants in the treatment of respiratory diseases and disorders: an ethnobotanical study in the Urmia. *Asian Pac J Trop Med.* 2014;7(Suppl 1): S364-S368.
 36. Karamati SA, Hassanzadazar H, Bahmani M, Rafieian-Kopaei M. Herbal and chemical drugs effective on malaria. *Asian Pac J Trop Dis.* 2014; 4(Suppl 2):599-601.
 37. Bahmani M, Rafieian-Kopaei M, Jeloudari M, Eftekhari Z, Delfan B, Zargaran A, et al. A review of the health effects and uses of drugs of plant licorice (*Glycyrrhiza glabra* L.) in Iran. *Asian Pac J Trop Dis.* 2014; 4(Suppl 2):847-849.
 38. Saki K, Bahmani M, Rafieian-Kopaei M, Hassanzadazar H, Dehghan K, Bahmani F, et al. The most common native medicinal plants used for psychiatric and neurological disorders in Urmia city, northwest of Iran. *Asian Pac J Trop Dis.* 2014;4(Suppl 2):895-901.
 39. Bahmani M, Karamati SA, Hassanzadazar H, Forouzan SH, Rafieian-Kopaei M, Kazemi-Ghoshchi B, et al. Ethnobotanic study of medicinal plants in Urmia city: identification and traditional using of antiparasites plants. *Asian Pac J Trop Dis.* 2014;4(Suppl 2):906-910.
 40. Shaygannia E, Bahmani M, Zamanzad B, Rafieian-Kopaei M. A Review Study on *Punica granatum* L. *J Evid Based Complementary Altern Med.* 2015 Jul 30. pii: 2156587215598039.
 41. Bahmani M, Rafieian M, Baradaran A, Rafieian S, Rafieian-kopaei M. Nephrotoxicity and hepatotoxicity evaluation of *Crocus sativus* stigmas in neonates of nursing mice. *J Nephropathol.* 2014;3(2):81-85.
 42. Bahmani M, Eftekhari Z, Saki K, Fazeli-Moghadam E, Jelodari M, Rafieian-Kopaei M. Obesity phytotherapy: review of native herbs used in traditional medicine for obesity. *J Evid Based Complementary Altern Med.* 2015 Aug 12. pii: 2156587215599105.
 43. Zolfaghari A, Adeli A, Mozafarian V, Babaei S, Habibi-Bibalan G. Identification of medicinal plants and indigenous knowledge of local people Arasbaran. *J Med Arum Plants.* 2013;28(3):534-550.
 44. Ranmanesh M, Najafi SH, Yousefi M. Ethnobotanical study of Medicinal Plants of Sistan region. *J Herbal Drugs.* 2010;2:61-68.
 45. Dolatkahi M, Ghorbani-Nahoji M, Mehrafarin E, Amininezhad GR, Dolatkahi E. Ethnobotanical study of medicinal plants of Kazeroun: identification, transmittal and traditional uses. *J Med Plants.* 2013;11(2), 45: 163-178.
 46. Abbasi SH, Afsharzadeh S, Mohajeri A. Ethnobotanical study of medicinal plants in Natanz region (Kashan), Iran. *J Herbal Drugs.* 2012; 3(3):157-166.
 47. Sharififar F, Kouhpayeh A, Motaghi MM, Amir-Khosravi A, Pou-Mohseninasab A. The reviews ethnobotany of medicinal plants city of Sirjan, Kerman Province. *J Herbal Drugs.* 2010;3:19-28.
 48. Mardaninejad SH, Vazirpour M. Ethnobotany of Medicinal Plants by Mobarake people (Isfahan). *J Herbal Drugs.* 2013;3(2):111-129.
 49. Ghasemi Pirbalouti A, Momeni M, Bahmani M. Ethnobotanical study of medicinal plants used by kurd tribe in dehloran and abdanan districts, ilam province, Iran. *Afr J Tradit Complement Altern Med.* 2013;10(2):368-385.
 50. Delfan B, Saki K, Bahmani M, Rangsaz N, Delfan M, Mohseni N, et al. A study on anti-diabetic and anti-hypertension herbs used in Lorestan province, Iran. *J Herbmed Pharmacol.* 2014;3(2):71-76.