Masoumeh Pourjabali et al /J. Pharm. Sci. & Res. Vol. 9(5), 2017, 537-541

ISSN:0975-1459
Journal of Pharmaceutical Sciences and Research
www.jpsr.pharmainfo.in

Medicinal Plants Used For Hypertension

Masoumeh Pourjabali[1], Reza Mohammadrezaei-Khorramabadi[2], Saber Abbaszadeh[2], Nasrollah Naghdi[3*], Siamak Naji-Haddadi[1], Fariba Bahmani[4]

[1]*Department of Pathology, Faculty of Medicine, Urmia University of Medical Sciences, Urmia, Iran*

[2]*Student Research Committee, Lorestan University of Medical Sciences, Khorramabad, Iran*

[3]*Ilam University of Medical Sciences, Ilam, Iran*
[4]*Leishmaniasis Research Center, Ilam University of Medical Sciences, Ilam, Iran*

Abstract

Hypertension is one of the most important diseases in industrialized and developing countries. Statistics show that more than seven million people worldwide are affected by this disease each year. Hypertension is the third cause of death in the world. Chemical medicines used for hypertension usually have side effects, so, the use of medicinal herbs as natural and healthy source of medicines appears essential. In the review, first, the search was done by keywords such as blood pressure, medicinal herbs, extracts, essences, ethnobotanical and Iran from scientific databases, and databases such as Google Scholar, SID, etc. Related articles were selected for review. After reviewing the papers of this study, eventually 42 medicinal herbs including sage, barberry, eastern grapes, yarrow, hawthorn, rhubarb, sheng, olive, rhubarb, buckwheat, spring chamomile, milk thistle, jujube, strawberry, ziziphus, indole, besides, garlic, fennel, almonds, etc. have been recommended in the treatment of hypertension.

Keywords: Cardiovascular diseases, Hypertension, Medicinal herbs, Iran

INTRODUCTION

Blood pressure is one of the important diseases in industrialized countries [1]. It is also one of the problems of developing countries [2,3]. Hypertension is one of the most important public health problems in the world [4]. Statistics show that more than seven million people worldwide are affected by this disease each year [5]. Hypertension is the third cause of death in the world [6]. The prevalence hypertension is increasing, but the awareness, control and treatment of the disease are very weak [7]. Hypertension causes people to engage with complications such as damage to the brain and retinal artery, renal dysfunction, diabetes, and cardiovascular disease, disability and death [7,8]. The reasons that make hypertension more important are the increased risk of coronary heart disease and incidence of cardiovascular events as well as stroke [9,10]. Medicines used to treat hypertension include captopril, prazosin, hydrochlorothiazide, atenolol, hydralazine, methyldopa, etc. [11-13]. Blood pressure treatment is usually difficult, so that only 30% of patients who were under treatment have their blood pressure controlled at an ideal level [14-16]. Reports and statistics show that the disorders and diseases of nephrons, kidney and associated tissues have been increased [17-27]. Nephron diseases are associated with pain and suffering, and impose enormous economic costs on the patient [28-43]. Chemical and synthetic medicines have devastating effects on the patient's body [44-49]. The use of medicinal herbs, herbal and natural medicines in the prevention, control and treatment of urinary tract and nephrons diseases is interested by researchers in this field [50-55]. Medicinal herbs have a number of active substances with pharmacological and prophylactic effects in the treatment of such disorders [59-68]. Since the medicinal herbs are used in the Iranian herbal and ethnobotanical medication to treat hypertension, is the aim of this study is to identify and report on the Iranian native medicinal herbs effective in hypertension.

METHODS

In the review, first, the search was done by keywords such as blood pressure, medicinal herbs, extracts, essences, ethnobotanical and Iran from scientific databases, and databases such as Google Scholar, SID, etc. Related articles were selected for review.

RESULTS

After reviewing the papers of this study, eventually 42 medicinal herbs including sage, barberry, eastern grapes, yarrow, hawthorn, rhubarb, sheng, olive, rhubarb, buckwheat, spring chamomile, milk thistle, jujube, strawberry, ziziphus, indole, besides, garlic, fennel, almonds, etc. are the most important recommended herbs in the treatment of hypertension in the Iranian herbal and ethnobotanical medicine resources.

Table 1. Iranian medicinal herbs with hypertension effect

Raw	Scientific name	Family name	Persian name	Used organ	Therapeutic effect	Region
1	*Ajuga chamaecistus*	Lamiaceae	Labdisi bouteh	Aerial part	Lowering blood pressure	Abadeh [69]
2	*Salvia sp*	Lamiaceae	Maryam goli	Petal	Lowering blood pressure	Abadeh [69]
3	*Berberis vulgaris* L.	Berberidaceae	Zereshkj	Fruit and Leaf	Lowering blood pressure	Arasbaran [70]
4	*Achillea millefolium* L.	Compositae	Boumadaran	Flowering shoot	Lowering blood pressure	Arasbaran [70]
5	Ecbalium elaterium	Cucurbitaceae	Khiare vahshi	Root	Lowering blood pressure	Arasbaran [70]
6	*Ribes orientale*	Grossulariaceae	Angoure sharghi	Root	Lowering blood pressure	Arasbaran [70]
7	*Crataegus monogyna*	Rosaceae	Zalzalak	Flower and Leaf	Lowering blood pressure	Arasbaran [70]
8	*Taxus baccata* L.	Taxaceae	Sorkhdar	Leaf	Lowering blood pressure	Arasbaran [70]
9	*Crataegus pontica*	Rosaceae	Zalzalak	Fruit and Leaf	Lowering blood pressure	Ilam [71]
10	*Paliurus spina-christi*	Rhamnaceae	Siah telo	Fruit	Lowering blood pressure	Ilam [71]
11	*Rheum ribes* L.		Rivas	Stalk	Lowering blood pressure	Ilam [71]
12	*Achillea millefolium* L.	Asteraceae	Boumadaran	-	Lowering blood pressure	Babol [72]
13	*Capsella bursa- pastoris* (L.)	Brassicaceae	Kise keshish	-	Lowering blood pressure	South east of Iran [73]
14	*Marrubiumanisodon*	Lamiaceae	-	-	Lowering blood pressure	South east of Iran [73]
15	*Tragopogon aureus* Boiss.	Asteraceae	Sheng	Leaf and Fruit	Lowering blood pressure	Khuzistan [74]
16	*Olea europaea* L.		Zeytoun	Leaf and Fruit	Lowering blood pressure	Khuzistan [74]
17	*Rumex pulcher* L.	Polygonaceae	Torshak	Root	Lowering blood pressure	Khuzistan [74]
18	*Nigella sativa* L.	Ranunculaceae	Siah daneh	Seed (Fruit)	Lowering blood pressure	Sistan [75]
19	*Anthemis cotula* L.	Asteraceae	Babouneh bahari	Inflorescence	Lowering blood pressure	East of Persian gulf [76]
20	*Suaeda altissima*	Chenopodiaceae	Siah shour	Leaf and Stalk	Lowering blood pressure	East of Persian gulf [76]
21	*Silybummarianum*	Asteraceae	Kharmaryam	Flower	Lowering blood pressure	Fasa [77]
22	*Crataegusaronia*	Rosaceae	Kialak	Fruit and Leaf	Lowering blood pressure	Fasa [77]
23	*Silybum marianum*	Asteraceae	Kharmaryam	Fruit and Leaf	Lowering blood pressure	Kazeroun [78]
24	*Matricaria chamomilla*	Asteraceae	Babouneh	Flower	Lowering blood pressure	Kohgilouyeh [79]
25	*Rumex crispus* L.	Polygonaceae	Torshak	Leaf	Lowering blood pressure	Mobarakeyeh isfahan [80]
26	*Ziziphus jujuba*	Rhamnaceae	Anab	Fruit	Lowering blood pressure	Mobarakeyeh isfahan [80]
27	*Olea europaea* L	Oleaceae	Zeytoun	Fruit	Lowering blood pressure	Mobarakeyeh isfahan [80]
28	*Ziziphussp.*	Rhamnaceae	Anab	-	Lowering blood pressure	Maraveh [81]
29	*Urtica dioica*L.	Urticaceae	Chitchiti	-	Lowering blood pressure	Maraveh [81]
30	*Berberis sp.*	Berberidaceae	Zereshk	-	Lowering blood pressure	Maraveh [81]
31	*Rubus sp*.	Rosaceae	Bioresen	-	Lowering blood pressure	Maraveh [81]
32	*Mentha longifolia*	Lamiaceae	-	Flower	Lowering blood pressure	Hamadan [82]
33	*Morus alba*	*Moraceae*	Tout	Fruit	Lowering blood pressure	Lorestan [82]
34	*Falcaria vulgaris*	*Apiaceae*	Ghazyaghi	Flowers, Laef and Stalk	Lowering blood pressure	Lorestan [82]
35	*Smyrnium cordifolium*	*Umbelliferae*	Andol	Seed	Lowering blood pressure	Lorestan [83]
36	*Crocus hasskenechtii*	*Iridaceae*	Zafaran	Root	Lowering blood pressure	Lorestan [83]
37	*Berberis integrima*	*Berberidaceae*	Zereshk	Leaf and stalk	Lowering blood pressure	Lorestan [83]
38	*Ziziphus spina-christi*	*Rhamnaceae*	Konar	Leaf and stalk	Lowering blood pressure	Lorestan [83]
39	*Allium ursinum*	*Liliaceae*	Sir	Underground roots	Lowering blood pressure	Lorestan [83]
40	*Tragapogon caricifolius*	*Compositae*	Sheng	Aerial part	Lowering blood pressure	Lorestan [83]
41	*Anethum graveolens*	*Umbelliferae*	Shevid	Aerial part	Lowering blood pressure	Lorestan [83]
42	*Amygdalus scoparia*	*Rosaceae*	Badam	Fruit	Lowering blood pressure	Lorestan [83]

DISCUSSION

Hypertension which is called arterial hypertension is a chronic disease in which the blood pressure in the arteries increases. In this study, medicinal herbs of sage, barberry, eastern grapes, yarrow, hawthorn, rhubarb, sheng, olive, rhubarb, buckwheat, spring chamomile, milk thistle, jujube, strawberry, ziziphus, indole, besides, garlic, fennel, almonds, etc. have been recommended in the treatment of hypertension. For rapid reduction of hypertension, blood pressure balancers should be used in the diet rather than highly morbid medicines. Medicinal herbs are one of the solutions [32, 84]. Based on the results obtained, hypertension can be treated in many ways including lifestyle changes or the use of herbal medicines [42, 85]. The mechanism actions of these plants are not clear. They possibly act, in part, by antioxidant activity [85]. Antioxidants have been shown to, other than anti-hypertension activity, have various beneficial effects in diseases [86-93]. Hence other plants or agents which have these properties [94-108] may reduce hypertension.

CONCLUSION:

Therefore, people who have disease other than hypertension may more benefit from these plants. It seems that the medicinal herbs of this study have pharmacological, polyphenols, flavonoids and antioxidant substances that improve blood pressure reduction. Other plants which have these compounds especially antioxidant activity [109-112] may have anti-hypertensive activity.

REFERENCES:

[1] Al-Sowilem LS, Elzubier AG. Compliance and knowledge of hypertensive patients attending. PHC Centres in Al-Khobar. Saudi Arabia J. 1998; 4: 301-307.

[2] Nakanishi N, Li W, Fukuda H. Multiple risk factor clustering and risk of hypertension in Japanese male office workers. Ind Health 2003;41(4):327-331.

[3] Henrish J, Doring A. Blood pressure and rhinitis in adults: results of the MONICA/ KORA- study. J Hypertension 2004; 22(5) 889-92.

[4] Williams GH. Hypertensive vascular disease. Principles of Internal Medicine 12th edition, WB Mc Grow-Hill Inc: USA, 1991

[5] National Heart Lung and Blood institute .The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) Complete Report. 2004.

[6] WHO. Cause of death. Center for Global. Into Regional Studies (CGIRS) at the University of California Santa C, 2006: 120-140.

[7] Cooper DH, Krainik AJ, Lubner SJ, et al. The Washington manual of medical therapeutics, 32th edition, New York, Lippincott Williams & Wilkins, 2007.

[8] Ernsting J, Nicholson AN, Rainford DJ. Aviation Medicine, Third edition, Oxford, A Hodder Arnold Publication, 1999.

[9] Levy D, Larson MG, Vasan RS, et al. The progression from hypertension to congestive heart failure. JAMA 1996; 275: 1557.

[10] Staessen JA, Fagard R, Thijs L, et al. Randomised doubleblind comparison of placebo and active treatment for older patients with isolated systolic hypertension. The Systolic Hypertension in Europe (Syst-Eur) Trial Investigators. Lancet 1997; 350: 757.

[11] Fauci, Braunwald E, et al. Harrison's Principles of internal Medicine. 15th edition McGraw Hill. 2005, pp: 725 - 46.

[12] Laragh JH, Brenner BM, Stein HH. Hypertension 2nd edition. Raven Press. 1995, pp: 3 - 17.

[13] Smith WM. Treatment of mild hypertension: results of a ten-year intervention trial. Circ Res. 1977, 40: 198 - 205.

[14] Brownwold Eu, ZIPES DO. LIBBYY PE: Heart Disease a text book of cardiovascular medical, 1,6th, USA: MCGrowHiH, 2001: 919, 975, 948, 1010.

[15] Braun wold Eu, Hauser ST, Hauser ST, FAUCI AN, Longo DA, JAMESON LA KASPER DE: Harrison's principles of intern Medicine,1,15th usa: MCGrow HiH, 2001:1415.

[16] Data from joint Nation committee. The seventh report of the JNC on the preventation detection, Evaluation and Treatment of high Blood pressure, JNC. 7 Express JAMA. 1.282, 2003: p71,73.

[17] Tadeu Volpato, Gustavo, et al. "Medicinal Plants for Diabetes Treatment During Pregnancy." *Current Medicinal Chemistry* 24.4 (2017): 404-410.

[18] Hajian S. Positive effect of antioxidants on immune system. Immunopathol Persa. 2015;1(1):e02.

[19] Asadi-Samani M, Bahmani M. Trends on the treatment of atherosclerosis; new improvements. Angiol Persica Acta. 2016;1(1):e01.

[20] Aziz, Muhammad Abdul, et al. "Traditional uses of medicinal plants reported by the indigenous communities and local herbal practitioners of Bajaur Agency, Federally Administrated Tribal Areas, Pakistan." *Journal of Ethnopharmacology* 198 (2017): 268-281.

[21] Gholamian-Dehkordi N, Luther T, Asadi-Samani M, Mahmoudian-Sani MR. An overview on natural antioxidants for oxidative stress reduction in cancers; a systematic review. Immunopathol Persa. 2017;3(2):e12.

[22] Kamba, Francklin, et al. "Contribution to the knowledge of Medicinal plants used in the Treatment of Arterial Hypertension by traditional Practitioners Bouar in CAR." *Advances in Social Sciences Research Journal* 3.6 (2016).

[23] Bahmani M, Asadi-Samani M. A short look to the most important medicinal plants effective on wound healing. J Inj Inflamm.2016;1(2):e07.

[24] Aghadavod E. Amygdalin; is it an anticancer and antitumor agent? Immunopathol Persa. 2016;2(2):e22.

[25] Tahraoui, A., et al. "Ethnopharmacological survey of plants used in the traditional treatment of hypertension and diabetes in south-eastern Morocco (Errachidia province)." *Journal of ethnopharmacology* 110.1 (2007): 105-117.

[26] Asadi-Samani M, Nasrollah N, Bahmani M. A report of the most important medicinal plants with anti-angiogenesis effects. Angiol Persica Acta. 2016;1(1):e10.

[27] Karimi A, Majlesi M, Rafieian-Kopaei M. Herbal versus synthetic drugs; beliefs and facts. J Nephropharmacol 2015; 4(1): 27-30.

[28] Mensah, J. K., et al. "Phytochemical analysis of medicinal plants used for the management of hypertension by Esan people of Edo state, Nigeria." *Ethnobotanical leaflets* 2009.10 (2009): 7.

[29] Mohammadparast V. Antioxidant efficacy of Hibiscus esculentus. Front Biomed. 2016;1(1):e04.

[30] Tamadon MR, Saberi Far M, Soleimani A, Ghorbani R, Semnani V, Malek F,and Malek M. Evaluation of noninvasive tests for diagnosis of Helicobacter pylori infection in hemodialysis patients.J Nephropathol. 2013; 2(4): 249–253.

[31] Ahmadvand H, Jamor P. Effects of alpha lipoic acid on level of NO and MPO activity in diabetic rats. Ann Res Antioxid. 2017;2(2):e04.

[32] Janakiraman, M., and K. Jeyaprakash. "Nephroprotective Potential of Medicinal Plants: a Review." *International Journal of Scientific Research* 4.9 (2016).

[33] Tamadon MR, Jamshidi L, Soliemani A, Ghorbani R, Malek F, Malek M.Effect of different doses of folic acid on serum homocysteine level in patients on hemodialysis.Iran J Kidney Dis. 2011 Mar;5(2):93-6.

[34] Nasri H. Improving the nephrotoxicity of cyclosporine; the role of herbal drugs. Toxicol Persa. 2016; 1(1):e05.

[35] Ali, B. H. "The effect of treatment with the medicinal plant Rhazya stricta decne on gentamicin nephrotoxicity in rats." *Phytomedicine* 9.5 (2002): 385-389.

[36] Asgari MR, Mohammadi E, FallahiKhoshknab M, Tamadon MR. Hemodialysis patients' perception from nurses' role in their adjustment with hemodialysis: A qualitative study. koomesh. 2011; 12 (4) :385-395.

[37] Nasri H. Antioxidant therapy to ameliorate chronic kidney disease induced by oxidative stress; an updated mini-review. J Prev Epidemiol. 2017;2(1):e04.
[38] Adeneye, Adejuwon Adewale, and Adokiye Senebo Benebo. "Protective effect of the aqueous leaf and seed extract of Phyllanthus amarus on gentamicin and acetaminophen-induced nephrotoxic rats." *Journal of Ethnopharmacology* 118.2 (2008): 318-323.
[39] Soliemani A, Nikoueinejad H, Tabatabaizade M, Mianehsaz E, Tamadon M.Effect of hydroxymethylglutaryl-CoA reductase inhibitors on low-density lipoprotein cholesterol, interleukin-6, and high-sensitivity C-reactive protein in end-stage renal disease.Iran J Kidney Dis. 2011 Jan;5(1):29-33.
[40] Nasri H. Silymarin and its properties; a nephrology viewpoint. J Renal Endocrinol. 2015;1(1):e09.
[41] Rafieian-Kopaie M, Baradaran A. Plants antioxidants: From laboratory to clinic. J Nephropathol. 2013; 2(2): 152-153.
[42] Harlalka, Gaurav Vijay, Chandragauda Raosaheb Patil, and Mahesh Ramu Patil. "Protective effect of Kalanchoe pinnata pers.(Crassulaceae) on gentamicin-induced nephrotoxicity in rats." *Indian Journal of Pharmacology* 39.4 (2007): 201.
[43] Rafieian-Kopaei M. Natural sources of vitamin D. J Parathyr Dis 2015; 3(1): 10-11.
[44] Lans, Cheryl A. "Ethnomedicines used in Trinidad and Tobago for urinary problems and diabetes mellitus." *Journal of ethnobiology and ethnomedicine* 2.1 (2006): 45.
[45] Nasri H, Abedi-Gheshlaghi Z, Rafieian-Kopaei M. Curcumin and kidney protection; current findings and new concepts. Acta Persica Pathophysiol. 2016; 1(1):e01.
[46] Wojcikowski, Ken, David W. Johnson, and Glenda Gobe. "Medicinal herbal extracts–renal friend or foe? Part one: The toxicities of medicinal herbs." *Nephrology* 9.5 (2004): 313-318.
[47] Akbari F, Shahinfard N, Mirhoseini M, Shirzad H, Heidarian E, Hajian S, Rafieian-Kopaei M. Impacts of Hibiscus esculentus extract on glucose and lipid profile of diabetic rats. J Nephropharmacol. 2016; 5(2):80-85.
[48] Joob B, Wiwanitkit V. Linzhi (Ganoderma lucidum); evidence of its clinical usefulness in renal diseases. J Nephropharmacol. 2016;5(1):9-10.
[49] Asadi-Samani MA, Moradi MT, Mahmoodnia L, Alaei S, Asadi-Samani F, Luther T. Traditional uses of medicinal plants to prevent and treat diabetes; an updated review of ethnobotanical studies in Iran. J Nephropathol. 2017;6(3):118-125
[50] Manna, Prasenjit, Mahua Sinha, and Parames C. Sil. "Aqueous extract of Terminalia arjuna prevents carbon tetrachloride induced hepatic and renal disorders." *BMC complementary and alternative medicine* 6.1 (2006): 33.
[51] Akbari F, Khodadadi S, Asgari S, Shirzad H, Mirhoseini M, Shahinfard N, et al. A comparative study on hypoglycemic properties, lipid profile and bioactive components of hydro-alcoholic extracts of cooked and raw Brassica napus. J Nephropharmacol. 2016; 5(2):86-90.
[52] Afkhami-Ardakani M, Hassanzadeh S, Shahrooz R, Asadi-Samani M, Latifi M, Luther T. Phytotherapy and phytopharmacology for reduction of cyclophosphamide-induced toxicity in the male urinary system. J Renal Inj Prev. 2017;6(3):164-170.
[53] Ballabh, Basant, et al. "Traditional medicinal plants of cold desert Ladakh—used against kidney and urinary disorders." *Journal of ethnopharmacology* 118.2 (2008): 331-339.
[54] Kafeshani M, Mirhosseini M, Momeni A, Rabiei R, Rafieian-Kopaei M. Impact of Kelussia odoratissima Mozaffarian lipid profile and fasting blood sugar in hyperlipidemia patients. J Nephropharmacol. 2017; 6(1):9-12.
[55] Rafieian-Kopaei M. Medicinal plants for renal injury prevention. J Renal Inj Prev. 2013 Jun 1; 2(2):63-5.
[56] Chauhan, N., D. Kumar, and M. S. Kasana. "Medicinal plants of Muzaffarnagar district used in treatment of urinary tract and kidney stones." (2009).
[57] Baharvand-Ahmadi B, Asadi-Samani M. Medicinal plants and treatment of hypertension; evidence from Iran. J Nephropharmacol. 2017;6(1):3-8.
[58] Rafieian-Kopaie M, Baradaran A. Plants antioxidants: From laboratory to clinic. J Nephropathol. 2013; 2(2): 152-153.
[59] Rafieian-Kopaei M. Natural sources of vitamin D. J Parathyr Dis 2015; 3(1): 10-11.
[60] Mahmoodnia L, Aghadavod E, Rafieian-Kopaei M. Ameliorative impact of cinnamon against high blood pressure; an updated review. J Renal Inj Prev. 2017;6(3):171-176.
[61] Bagnis, Corinne Isnard, et al. "Herbs and the kidney." *American journal of kidney diseases* 44.1 (2004): 1-11.
[62] Alirezaei AH, Shirzadeh Barough A, Azizi T, Shirzadeh Barough S, Ghorbanihaghjo A, Rashtchizadeh N, Babaie H, Delazar A. Anti-inflammatory effects of grape seed extract in hemodialysis patients; a pilot study. J Renal Inj Prev. 2017;6(3):184-187.
[63] Nasri H. Improving the nephrotoxicity of cyclosporine; the role of herbal drugs. Toxicol Persa. 2016; 1(1):e05.
[64] Ahmadvand H, Babaeenezhad E, Hadipour-Moradi F, Cheraghi-Venool A. Effect of gallic acid on liver oxidative stress markers in renal ischemia-reperfusion injury in rats. Ann Res Antioxid. 2017; 2(1):e03.
[65] Weiss, Rudolf, and Volker Fintelmann. *Herbal medicine*. No. Ed. 2. Georg Thieme Verlag, 2000.
[66] Nasri H. Antioxidant therapy to ameliorate chronic kidney disease induced by oxidative stress; an updated mini-review. J Prev Epidemiol. 2017;2(1):e04.
[67] Rafieian-Kopaei M. Nasri H. Herbal antioxidant therapy in dialysis patients. Ann Res Dial 2016 ;(1) 1:e02.
[68] Nasri H. Silymarin and its properties; a nephrology viewpoint. J Renal Endocrinol. 2015;1(1):e09.
[69] Razmjouei D, Zarei Z, Akbari M. Ethnobotanical study of medicinal plants of Abadeh city in Fars province. Journal Plants Ecophysiology 2015; 7(3): 222-234.
[70] Zolfaghari A, Adeli A, Mozafarian V, Babaei S, Habibi-Bibalan Gh. Identification of medicinal plants and indigenous knowledge of local people Arasbaran . J Med Arum Plants 2013; 28(3): 534-550.
[71] Ghasemi Pirbalouti A, Momeni M. and 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):368-000.
[72] Collect, identify and assess traditional uses of selected plants of babol city. Medicine Journal of Islam and Iran 2012; 3(1): 113-122.
[73] Rajaeia P and Mohamadi N. Ethnobotanical Study of Medicinal Plants of Hezar Mountain Allocated in South East of Iran. Iranian Journal of Pharmaceutical Research 2012; 11 (4): 1153-1167.
[74] Khodayari H, Amani SH, Amiri H. Ethnobotanical study of North east of Khuzistan province. Med Plants Ecophytochemistry J 2013; 8; 2(4): 12-26.
[75] Mahboobeh Iranmanesh; Shahla Najafi; Mehdi Yosefi. Studies on Ethnobotany of important medicinal plants in Sistan. J Herbal Drugs 2010; 1(2): 58-65.
[76] Dolatkhahi M, I Nabipour. Ethnobotanical Study of Medicinal Plants Used in the Northeast Latrine Zone of Persian Gulf. JMP 2014, 2(50): 129-143.
[77] Ramezanian M and Minaei-Far AA. Ethnobotanical study of medicinal plants of Fasa city. Medicine Journal of Islam and Iran 2016; 7(2): 221-231.
[78] Dolatkhahi M, Ghorbani-Nahouji M, Mehr-Afarin A, Amininejad GHR, Dolatkhahi A. An Ethnobotanical Study of Medicinal Plants city Kazeroon: identification, distribution and use of traditional .Journal of Medicinal Plants 2012; 42; 11(2): 163-178.
[79] Rahim-Forouzeh M, heshmati GHA, Barani H. Ethnobotanical survey of the province collected a selection of plants Kohgilouyeh. Medicine Journal of Islam and Iran 2015; 5(2): 131-139.
[80] Mardani-Nejhad SH, Vazirpour M. Ethno-botany of medicinal plants by Mobarakeh's people (Isfahan). J Herbal Drugs 2012; 3(2): 111-126.
[81] Mirdeilami, S. Z., H. Barani, M. Mazandarani, Gh. A. Heshmati. 2011. 'Ethnopharmacological survey of medicinal pants in Maraveh Tappeh region, north of Iran'. Iranian Journal of Plant Physiology 2(1), 327 -338.
[82] Naghibi F, Esmaeili S, Malekmohammadi M, Hassanpour A, Mosaddegh M. Ethnobotanical survey of medicinal plants used traditionally in two villages of Hamedan, Iran. Avicenna Journal of Phytomedicine 2014; 1(3): 7-14.

[83] Delfan B, Saki K, Bahmani M, Rangsaz N, Delfan M, Mohseni N, Shirzad H, Babaeian Z. A study on anti-diabetic and anti-hypertension herbs used in Lorestan province, Iran. J HerbMed Pharmacol. 2014; 3(2): 71-76.

[84] 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. 2013; DOI: 10.1002/ptr.4977

[85] Baradaran A, Nasri H, Rafieian-Kopaei M. Oxidative stress and hypertension: Possibility of hypertension therapy with antioxidants. J Res Med Sci. 2014 Apr;19(4):358-67.

[86] Rouhi-Boroujeni H, Heidarian E, Rouhi-Boroujeni H, Deris F, Rafieian-Kopaei M. Medicinal Plants with multiple effects on cardiovascular diseases: a systematic review. Curr Pharm Des. 2017; 23(7): 999 – 1015. DOI: 10.2174/1381612822666161021160524

[87] Asadi-Samani M, Rafieian-Kopaei M, and Azimi N. Gundelia: A systematic review of medicinal and molecular perspective. Pak J Biol Sci. 2013; 16: 1238-47.

[88] Ebrahimie M, Bahmani M, Shirzad H, Rafieian-Kopaei M, Saki K. A Review Study on the Effect of Iranian Herbal Medicines on Opioid Withdrawal Syndrome. J Evid Based Complementary Altern Med. 2015 Oct;20(4):302-9. doi: 10.1177/2156587215577896. Epub 2015 Mar 26

[89] Mahmoudi GA, Almasi V, Lorzadeh N, Khansari A. The reasons for using and not using alternative medicine in Khorramabad women, west of Iran. J Pakistan Med Assoc. 2015; 65(6): 623-625.

[90] Nasri H, Baradaran A, Shirzad H, Rafieian Kopaei M. New Concepts in Nutraceuticals as Alternative for Pharmaceuticals. Int J Prev Med 2014;5:1487-99.

[91] Rafieian Kopaei M. New Concepts in Nutraceuticals as Alternative for Pharmaceuticals. Int J Prev Med 2014;5:1487-99.

[92] Baharvand-Ahmadi B, Bahmani M, Tajeddini P, Naghdi N, Rafieian-Kopaei M. An ethno-medicinal study of medicinal plants used for the treatment of diabetes. J Nephropathol. 2016; 5(1):44-50.

[93] Azadmehr A, Hajiaghaee R, Afshari A, Amirghofran Z, Refieian-Kopaei M, yousofi H., Darani and Hedayatollah Shirzad. Evaluation of in vivo immune response activity and in vitro anti-cancer effect by Scrophularia megalantha. J Med Plants Res. 2011; 5(11): 2365–2368.

[94] Akhlaghi M, Shanian Gh, Rafieian-Koupaei M, Parvin N, Saadat M, Akhlaghi M. Citrus aurantium Blossom and Preoperative Anxiety. Revista Brasileira de Anestesiologia 2011; 61(6):702-712.

[95] Samarghandian S, Asadi-Samani M, Farkhondeh T, Bahmani M. Assessment the effect of saffron ethanolic extract (Crocus sativus L.) on oxidative damages in aged male rat liver. Der Pharmacia Letter. 2016; 8(3): 283-290.

[96] Rezvanirad A, Mardani M, Shirzad H, Ahmadzadeh SM, Asgary S, Naimi A, Mahmoudi GHA. Curcuma longa: A review of therapeutic effects in traditional and modern medical references. J Chem Pharmac Sci. 2016; 9 (4): 3438-3448.

[97] Parsaei P, Bahmani M, Naghdi N, Asadi-Samani M, Rafieian-Kopaei M, Boroujeni S. Shigellosis phytotherapy: A review of the most important native medicinal plants in Iran effective on Shigella. Der Pharmacia Lettre. 2016; 8(2): 249-255.

[98] Parsaei P, Bahmani M, Naghdi N, Asadi-Samani M, Rafieian-Kopaei M. The most important medicinal plants effective on constipation by the ethnobotanical documents in Iran: A review. Der Pharmacia Lettre. 2016; 8(2): 188-194.

[99] Bahmani M, Tajeddini P, Ezatpour B, Rafieian-Kopaei M, Naghdi N, Asadi-Samani M. Ethenobothanical study of medicinal plants against parasites detected in Shiraz, southern part of Iran. Der Pharmacia Lettre. 2016; 8(1): 153-160.

[100] Mahmoudi GA, Mahmoodnia L, Mirhosseini M. A review on the most important medicinal herbs native to Iran with anti-acetaminophen toxicity. J Global Pharma Technol. 2016; 8 (11): 12-16.

[101] Asadi-Samani M, Kooti W, Aslani E, Shirzad H: A systematic review of Iran's medicinal plants with anticancer effects. Journal of Evidence-Based Complementary & Alternative Medicine. 2016; 21(2): 143-153.

[102] Ahmadipour S, Ahmadipour S, Mohsenzadeh A, Asadi-Samani M. The importance of some native medicinal plants of Iran effective on gastrointestinal disorders in children: A review. Der Pharmacia Lettre. 2016; 8(1):61-6.

[103] Mohsenzadeh A, Ahmadipour S, Ahmadipour S, Asadi-Samani M. A review of the most important medicinal plants effective on cough in children and adults. Der Pharmacia Lettre. 2016;8(1):90-6.

[104] Mahmoudi GA, Mahmoodnia L, Mirhosseini M. Medicinal plants with anti-poisoning toxicity of carbon tetrachloride: An overview of the most important medicinal plants native to Iran with anti-carbon tetrachloride toxicity. J Global Pharma Technol. 2016; 8 (11): 17-20.

[105] 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. 2016; 22(2): 238 – 246. DOI: 10.2174/1381612822666151112151653

[106] Rabie Z, Gholami M, Rafieian-Kopaei M. Antidepressant effects of Mentha pulegium in mice. Bangladesh J Pharmacol. 2016; 11(3): 711-715 doi:http://dx.doi.org/10.3329/bjp.v11i3.27318.

[107] Sharafati‐Chaleshtori R, Shirzad H, Rafieian-Kopaei M, Soltani A. Melatonin and human mitochondrial diseases. J Res Med Sci 2016;21:138.

[108] Jivad N, Asadi-Samani M, Moradi MT. The most important medicinal plants effective on migraine: A review of ethnobotanical studies in Iran. Der Pharma Chemica. 2016;8(2):462-6.

[109] 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. 2016; 22(2): 238 – 246. DOI: 10.2174/1381612822666151112151653.

[110] Jivad N, Bahmani M, Asadi-Samani M. A review of the most important medicinal plants effective on wound healing on ethnobotany evidence of Iran. Der Pharmacia Lettre. 2016;8(2):353-7.

[111] Bahmani M, Sarrafchi A, Shirzad H, Rafieian-Kopaei M. Autism: Pathophysiology and promising herbal remedies. Curr Pharm Des. 2016; 22(3):277–285.

[112] Rafieian-kopaei M, Shahinfard N, Rouhi-Boroujeni H, Gharipour M, Darvishzadeh-Boroujeni P. Effects of Ferulago angulata extract on serum lipids and lipid peroxidation. Evid-Based Compl Alt. 2014. PubMed PMID: WOS:000332639700001]