

Medicinal Plants Used For Hypertension

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

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