

Research Article

Phytotherapy in Anorexia: Effective Medicinal Plants on Appetite Based on Iranian Ethnobotanical Sources

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ABSTRACT

Appetite is defined based on the regulators of the food-related variables that predict eating behaviors. It influences on energy homeostasis. Gastro-intestinal track is of the components of food intake and appetite control system. Environmental signals, including insulin, ghrelin, leptin, and central neuropeptides in the hypothalamus specify an individual's appetite. Medicinal plants are a natural and useful medicinal source in the treatment of diseases. Many native medicinal plants of Iran have effective properties on appetite. Thus, in this review, the effective medicinal plants of Iranian ethnobotanical resources on appetite were reported. In this review study, a search for articles by the keywords colic, ethnobotanical, and medicinal plants was done. A search on the databases, such as Scopus, ISI C, S ID, Mega Iran, and a number of other databases was performed. 26 herbs from different parts of Iran are traditionally used to treat anorexia. Such medicinal plants as sweet fennel, artichoke, rhubarb, chamomile, chicory, turnip, wild plum, pennyroyal, thistle, fumitory, salsify, etc. are of the most important medicinal plants affecting appetite.

Keywords: appetite, medicinal plants, ethnobotany, Iran.

INTRODUCTION

Appetite is defined based on the regulators of the food-related variables that predict eating behaviors¹. It influences on energy homeostasis^{2,3}. Gastro-intestinal track is of the components of food intake and appetite control system⁴. Imbalance in energy intake leads to weight gain, weight loss, or even death within a few years⁵. Arcuate nuclei in the hypothalamus are the main centers of hunger and satiety in the brain. The environmental signals of hunger and satiety hormone changes cause the beginning or ending of food intake by sending information and signals to the hypothalamus⁶. Appetite is of the factors that make the amount of food intake. Environmental signals, including insulin, ghrelin, leptin, and central neuropeptides in the hypothalamus determine an individual's appetite^{7,8}. Regulation of appetite is very important since it is one of the factors affecting obesity and thinness and body health. Medicinal plants are a natural and useful medicinal source in the treatment of diseases⁹⁻²⁷. Many native medicinal plants of Iran have anti-anorexia effects. Therefore, in this review, the medicinal plants of Iranian ethnobotanical resources with anti-anorexia effects were reported.

METHODOLOGY

In the current review study, a search for articles by the keywords colic, ethnobotanical, and medicinal plants was done. A search on the databases, such as Scopus, ISI C, S

ID, Mega Iran, and a number of other databases was performed.

RESULTS

26 herbs from different parts of Iran are traditionally used to treat anorexia. The medicinal plants of different parts of Iran, which are effective on anorexia, along with their additional information, are marked in Table 1.

DISCUSSION

Anorexia is mainly neurological causes, but it can be other causes such as anemia, constipation, addiction. Ethnobotanical study provide useful information of medicinal plants effects. Medicinal herbs nutrition by having active ingredients can be a way to correct anorexia. The study medicinal plants can provide a good research background for appetite management since having bioactive and effective pharmaceuticals and having been used for its control since long time ago. Consequently, effective natural drugs can be produced to manage appetite in case of proving their effectiveness after performing a pharmacological study on them.

REFERENCES

1. King NA, Lluch A, Stubbs RJ, Blundell J.E. High dose exercise does not increase hunger or energy intake in free living males. *Eur J Clin Nutr.* 1997; 51(7): 478-83.

Table 1: Iranian native medicinal plants for treating anorexia presented in their Persian names, scientific names, and family names, together with their parts used and areas where they are found.

No.	Scientific name	Family name	Persian name	Therapeutic use	Region
1.	<i>Satureja hortensis</i>	Labiatae	Marzeh	Appetizer	Arasbaran ²⁸
2.	<i>Allium akaka</i> Gmelin.	Aliaceae	Valak	Appetizer	Ilan ²⁹
3.	<i>Cirsium arvense</i>	Asteraceae	Kangar sahraei	Appetizer	Kerman ³⁰
4.	<i>Rheum ribes</i>	Polygonaceae	Rivas	Appetizer	Kerman ³⁰
5.	<i>Cressa Cretica</i> L.	Convolvulaceae	Alafeh morcheh	Appetizer	Jandagh ³¹
6.	<i>Daucus carota</i> L.	Apiaceae	Havij	Appetizer	Khuzistan ³²
7.	<i>Angelica archangelica</i> L.	Apiaceae	Babouneh	Appetizer	Khuzistan ³²
8.	<i>Cichorium intybus</i>	Asteraceae	Kasni	Appetizer	Khuzistan ³²
9..	<i>Biebersteinia multifida</i> DC.	Biebersteiniaceae	Bahman pich	Appetizer	Khuzistan ³²
10.	<i>Brassica napus</i> L.	Brassicaceae	Shalgham	Appetizer	Khuzistan ³²
11.	<i>Nasturtium officinale</i> L. R.Br.	Brassicaceae	Alafe cheshmeh	Appetizer	Khuzistan ³²
12.	<i>Sinaps nigra</i> L.	Brassicaceae	Khardal siah	Appetizer	Khuzistan ³²
13.	<i>Stachis lavandulifolia</i> L.	Lamiaceae	Chaye kouhi	Appetizer	Khuzistan ³²
14.	<i>Crataegus curvisepala</i> Lindm.	Rosaceae	Zalzalak	Appetizer	Khuzistan ³²
15.	<i>Tamarix rosea</i> Bge.	Tamaricaceae	Gaz	Appetizer	Khuzistan ³²
16.	<i>Mentha longifolia</i> L. Huds.	Laminaceae	Pouneh	Appetizer	Sistan ³³
17.	<i>Tribulus terrestris</i>	Zygophyllaceae	Kharkhasak	Appetizer	Sistan ³³
18.	<i>Rumex vesicarius</i> L.	Polygonaceae	Torshak badkonaki	Appetizer	Khaliy fars ³⁴
19.	<i>Polygonum patalum</i> M.B.	Portulacaceae	Haft band	Appetizer	Kazeroun ³⁵
20.	<i>Rumex vesicarius</i> L.	Portulacaceae	Torshak	Appetizer	Kazeroun ³⁵
21.	<i>Verbena officinalis</i> L.	Verbenaceae	Shahpasand	Appetizer	Kazeroun ³⁵
22.	<i>Matricaria recutita</i> L.	Asteraceae	Babone	Appetizer	Mobarakeyeh isfahan ³⁶
23.	<i>Fumaria vaillantii</i> Loisel	Fumaricaceae	Shahtareh	Appetizer	Mobarakeyeh isfahan ³⁶
24.	<i>Mentha pulegium</i> L	Lamiaceae	Pouneh	Appetizer	Mobarakeyeh isfahan ³⁶
25.	<i>Anthemis tinctoria</i> L.	Asteraceae	Babouneh zard	Appetizer	Marivan ³⁷
26.	<i>Tragopogon graminifolius</i> DC.	Asteraceae	Shaeng	Appetizer	Marivan ³⁷

- Cheng M, Bushnell D, Cannon DT, Kern M. Appetite regulation via exercise prior or subsequent to high-fat meal consumption. *Appetite*. 2009; 52:193–198.
- Stanley S, Wynne K, McGowan B, Bloom S. Hormonal regulation of food intake. *Physiol Rev*. 2005; 85(4):1131- 58.
- Druce MR, Small CJ, Bloom SR. Minireview: gut peptides regulating satiety. *Endocrinology*. 2004; 145(6):2660–2665.
- Klok M, Jacaobsottir S, Drent M. The roel of leptin and ghrelin in the regulation of food intake and body weight in humans. *Obesity*. 2007; 8:21-34.
- Shariatzadeh M, Gaeini AA, Kordi MA, Suri R, Hedayati M, Haghshenas RA. The effect of 12 weeks of endurance training on plasma levels of acylated ghrelin, PYY3-36, food intake and body weight of obese male rats. *life Sciences Sports* .2012; 14: 55-69.
- Hosoda H, Kojima M, Kongawa K. Ghrelin and the regulation of food intake and energy balance. *Interv*. 2002; 2: 431- 446.
- Chen H, Hansen M, Jones J, Vlahose R, Bozinovski S. Regulation of hypothalamic NPY by diet and smoking. *Peptides*. 2007; 28: 384-389.
- Raeisi E, Shahbazi-Gahrouei D, Heidarian E. Pineapple extract as an efficient anticancer agent in treating human cancer cells. *Front Cancers*. 2016; 1(1):03.
- Mohammadparast V. Antioxidant efficacy of *Hibiscus esculentus*. *Front Biomed*. 2016; 1(1):04.
- Nasri H. Herbal drugs and new concepts on its use. *J Prev Epidemiol*. 2016; 1(1):01.
- Nasri H, Abedi-Gheshlaghi Z, Rafieian-Kopaei M. Curcumin and kidney protection; current findings and new concepts. *Acta Persica Pathophysiol*. 2016; 1(1):01.
- Khodadadi S, Rafieian-Kopaei M. Herbs, health and hazards; a nephrology viewpoint on current concepts and new trends. *Ann Res Antioxid*. 2016; 1(1):05.
- Rafieian-Kopaei M, Baradaran A. Plants antioxidants: From laboratory to clinic. *J Nephropathol*. 2013; 2(2): 152-153.
- Hajian S. Positive effect of antioxidants on immune system. *Immunopathol Persa*. 2015; 1(1):e02.
- Nasri H. Impact of garlic extract on platelet function and structure. *Ann Res Platelets*. 2016; 1(1):01.
- Dehghan Shahreza F. *Hibiscus esculentus* and diabetes mellitus. *J Nephropharmacol*. 2016; 5 (2): 104-105.
- Kafeshani M. Ginger, micro-inflammation and kidney disease. *J Renal Endocrinol*. 2015; 1:04.
- Amiri M. Type 2 diabetes mellitus; an international challenge. *Ann Res Dial*. 2016; 1(1):04.
- Amiri M, Hosseini SM. Diabetes mellitus type 1; is it a global challenge? *Acta Epidemioendocrinol*. 2016; 1(1):02.

21. Baradaran A. Concepts towards endothelial dysfunction in diabetes mellitus. *Angiol Persica Acta*. 2016; 1(1):02.
22. Rafieian-Kopaei M. Medicinal plants for renal injury prevention. *J Renal Inj Prev*. 2013 1; 2(2):63-5.
23. Ghafari M, Taheri Z, Hajivandi A, Amiri M. Parathyroid carcinoma; facts and views. *J Parathyroid Dis*. 2015; 3(2): 37-40.
24. Nasri H. Improving the nephrotoxicity of cyclosporine; the role of herbal drugs. *Toxicol Persa*. 2016; 1(1):05.
25. Bahmani M, Asadi-Samani M. Native medicinal plants of Iran effective on peptic ulcer. *J Inj Inflamm*. 2016; 1(1):05.
26. Nasri H. World diabetes day; 2016. *Aria J Front Biochem*. 2016; 1(1):e01.
27. Nasri P. Mitochondria as a biomarker for cancer therapy. *Front Biomark*. 2016; 1(1): 0.
28. 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.
29. Ghasemi Pirbalouti A, Momeni M, Bahmani M. Ethnobotanical study of medicinal plants used by Kurd tribe in Dehloran and Abdanan Districts, Ilam Province, Iran. *African J Tradition, Complement and Altern Med*. 2013; 10(2): 368-385.
30. Khodayari H, Amani SH, Amiri H. Ethnobotanical study of North east of Khuzistan province. *Med Plants Ecophytochemistry J* 2013; 8; 2(4): 12-26.
31. Ghassemi Dehkordi N, Norouzi M, Safaei Aziz A. Collection and Evaluation of the Traditional Applications of Some Plants of Jandagh. 2012; 3 (1): 105-112.
32. Khodayari H, Amani SH, Amiri H. Ethnobotanical study of North east of Khuzistan province. *Med Plants Ecophytochemistry J*. 2013; 8; 2(4): 12-26.
33. Iranmanesh M; Shahla Najafi; Mehdi Yosefi. Studies on Ethnobotany of important medicinal plants in Sistan. *J Herbal Drugs*. 2010; 1(2): 58-65.
34. Dolatkhahi M, I Nabipour. Ethnobotanical Study of Medicinal Plants Used in the Northeast Latrine Zone of Persian Gulf. *JMP*. 2014, 2(50): 129-143.
35. Khodayari H, Amani SH, Amiri H. Ethnobotanical study of North east of Khuzistan province. *Med Plants Ecophytochemistry J*. 2013; 8; 2(4): 12-26.
36. Mardani-Nejhad SH; Mansoureh Vazirpour. Ethnobotany of medicinal plants by Mobarakeh's people (Isfahan). *J Herbal Drugs*. 2012; 3(2): 111-126.
37. Tabad MA, N Jalilian. Ethnobotanical Study of Medicinal Plants in Zarivar Region (Marivan), Iran. *JMP*. 2015, 2(54): 55-75.