

# Identifying medicinal plants affecting the teeth from the Southern District of Ilam province, Iran

Somayeh Ghamari<sup>1</sup>, Saber Abbaszadeh<sup>2,3</sup>, Mahnaz Mardani<sup>4\*</sup>, Somayeh Shahsavari<sup>5</sup>

<sup>1</sup>Specialist in Endodontic, Endodontic Department, Ilam University of Medical Sciences, Ilam, Iran
<sup>2</sup>Razi Herbal Medicines Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran
<sup>3</sup>Student Research Committee, Lorestan University of Medical Sciences, Khorramabad, Iran
<sup>4</sup> Nutritional Health Research Center, Health and Nutrition Department, Lorestan University of Medical Sciences, Khorramabad, Iran

<sup>5</sup>Biotechnology and Medicinal Plants Research Center, Ilam University of Medical Sciences, Ilam, Iran

## Abstract

Dental pain is dumb and within a few days its intensity decreases, but a twinge begins from the third day onwards using painkillers and gauze of cavity with different cases is the most common method of reducing pain. Common painkillers in dentistry such as Acetaminophen and ibuprofen in some cases are not able to control severe pain and the ability to control pain is not enough. Furthermore, considering that synthetic medicines have enormous side effects, the use of medicinal plants in different countries, including Iran, which in rich in plant resources has been taken into consideration. Toothache has a lot of incidence so in this study, it was tried to identify and report thedental medicinal plants in the Southern district of Ilam province. In this study, at first the questionnaires were prepared and distributed among 23 traditional healers and herbalists of Dehloran city and was used to gathering ethnobotanical information of district to treat toothache. Questionnaires contained demographic data and so on. Based on the results obtained by the questionnaire, it was specified that eight medicinal plants of Oryza Sativa, narcissus, poppies, harmel, white clover, etc. are the most important anti toothache medicinal plants in the Southern district of Ilam province. The mentioned plants probably due to the antioxidant materials have anti toothache property.

Keywords: Toothache, Analgesic, Medicinal plants, Iran

## INTRODUCTION.

Dental pain is dumb and within a few days its intensity decreases, but a twinge begins from the third day [1]. Due to the fact that the cavity bone surfaces are exposed, these surfaces are extremely sensitive and patient has severe pain in the area, a moderate to severe dumb headache, that is often referred to hear, taste and halitosis [2]. Gauze of cavity with different cases is the most common method of reducing pain. Common painkillers in dentistry i.e. acetaminophen and ibuprofen in some cases are not able to control severe pain and their ability to control pain is not enough. Medicinal plants as a source of food, medicinal and supplements are available [3-11]. From ancient times the medicinal plants and natural products have been available as a natural medicinal source and effective agents [12-17]. Medicinal plants were used in the prevention and control of poisoning and medical and pharmaceutical errors by pharmaceutical companies[18-24]. Medicinal plants due to some particular combinations including flavonoids, phenols, polyphenols etc, have antioxidant properties and so are highly effective [25-39]. Considering that synthetic medicines have enormous side effects, the use of medicinal plants in different countries, including Iran, which in rich in plants resources is taken into consideration. Toothache has a lot of incidence so in this study, it was tried to identify and report the anti-dental medicinal plants in the Southern district of Ilam province.

## METHODOLOGY

In this study, at first the questionnaires were prepared and distributed among 23 traditional healers and herbalists of Dehloran city and was used to gathering ethnobotanical information of district to treat toothache. Questionnaires contained demographic data and so on.

### RESULTS

Based on the results obtained the questionnaire it was specified that eight medicinal plant of Oryza Sativa, narcissus, poppies, harmel, white clover, etc. are the most important anti toothache medicinal plants in the Southern district of Ilam province.

## DISCUSSION

People get toothache at least once in a lifetime experience. Toothache is pain that usually begins in all the bones of jaw and the skull might be involved. One of the most important factors for toothache is tooth decay. Some herbs such as garlic, ginger, coconut, pepper, cloves, onion, turmeric, sesame and so on are used in traditional medicine to treat toothache.

Plants derived medicines, especially in Iran, are used and have become a part of people culture. These people usually turn to herbal medicines for treatment of various diseases and pain relief. Researchers have also recently focused on these plants to prove their validity of usage [40-48]. Ilam is endowed with a wide number of herbal medicines. These plants are used for treatment of variety of diseases [49-57].

Row	Scientific name	Family name	Persian name	Used Organs	Therapeutic name	Region
1	Achillea biebersteinii Afan.	Asteraceae	Berenjdas	Leaves and stem	Toothache	Ilam
2	Capparis spinosa L.	Capparidaceae	Kalkam	Leaves, stem and fruit	Toothache	Ilam
3	Narcissus tazetta L.	Amaryllidaceae	narges	Fruit	Toothache	Ilam
4	Papaver dubium L.	Papaveraceae	Khashkhash	Flower and leaves	Toothache	Ilam
5	Peganum harmala L.	Zygophyllaceae	Espand	Seed and fruit	Toothache	Ilam
6	Stachys lavandulifolia	Lamiaceae	Golpar	Flower	Toothache	Ilam
7	Trifolium repens L.	Fabaceae	Shabdar sefid	Leaf and Flowering shoot	Toothache	Ilam
8	Ziziphus nummularia	Ramnaceae	Konar	Leaf and Fruit	Toothache	Ilam

Some of these plants have anti-toothache activities. The potential of some of these herbs to relief toothache seems to be special and the others are common due to the presence of flavonoids and other phenolic compounds. Flavonoids and other phenolic compounds, other than having a wide variety of properties, mostly possess antinociceptive and anti-inflammatory activities, too [58-65]. To alleviate toothache as a public problem, herbal medicines were screened as an economic and safe tool for solving this problem. Eight plants were found to be effective in toothake relief. The extract of avocado, bawang, guava, yerba-buena and calachuchi flowers, walisan; garlic oil; and pandacaqui bark have also shown good efficacy in other parts of the world. All of these plants, less or more, have flavonoids and other phenolic compounds. There are a lot of other plants or plant derived medications which possess these compound [66-75]. Medicinal herbs can be a source of important drugs for infectious and noninfectious diseases [76-89]. Therefore, they also may have antitoothache property which worth examining.

#### REFERENCES

- [1] Peterson LJ ,Ellise E , Happ J R , Tucker MR .Contemporary Oral and Maxillofacial Surgery. 4Ed , st Louis Mosby , 2008 ; 214-220 .
- [2] Alexander RE. Dental Extraction Wound Management : A Case Against Mmedicating Post Extraction Sockets. J Oral Maxillifac surg.2000May; 58 (5):531-7
- [3] Vezeau pJ. Dental Extraction Wound Management : Medicating Post Extraction Socket .J Oral Maxillofacial Surg . 2000May;58(5): 531-7.
- [4] Houston JP, Mccollum J, Piet ZD, Schneck D. Alveolar Ostetis : A Review of Its Etiology Prevention and Treatment Modalities. Gen dent . 2002 Sep-Oct; 50(5):457-63.
- [5] Amiri A, Amiri A. Antioxidants and heart disease; current knowledge. Ann Res Antioxid. 2017;2(1):e03.
- [6] Nasri H. Herbal drugs and new concepts on its use. J Prev Epidemiol. 2016; 1(1):e01.
- [7] Khodadadi S, Rafieian-Kopaei M. Herbs, health and hazards; a nephrology viewpoint on current concepts and new trends. Ann Res Antioxid. 2016; 1(1):e05.
- [8] Rafieian-Kopaie M, Baradaran A. Plants antioxidants: From laboratory to clinic. J Nephropathol. 2013; 2(2): 152-153.
- [9] Nasri H. Help or hindrance; administration of herbal drugs for kidney diseases. Toxicol Persa. 2016;1(1):e04.
- [10] Hajian S. Positive effect of antioxidants on immune system. Immunopathol Persa. 2015;1(1):e02.
- [11] Nasri H, Abedi-Gheshlaghi Z, Rafieian-Kopaei M. Curcumin and kidney protection; current findings and new concepts. Acta Persica Pathophysiol. 2016; 1(1):e01.
- [12] Dehghan Shahreza F. Hibiscus esculentus and diabetes mellitus. J Nephropharmacol. 2016; 5(2):104-105.

- [13] Karimi A, Majlesi M, Rafieian-Kopaei M. Herbal versus synthetic drugs; beliefs and facts. J Nephropharmacol 2015; 4(1): 27-30.
- [14] Kafeshani M. Ginger, micro-inflammation and kidney disease. J Renal Endocrinol.2015; 1:e04.
- [15] Baradaran A. Herbal antioxidant to ameliorate vascular biology. Angiol Persica Acta. 2017;2(1):e01.
- [16] Rafieian-Kopaei M. Medicinal plants for renal injury prevention. J Renal Inj Prev. 2013 Jun 1; 2(2):63-5.
- [17] 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.
- [18] 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. Journal of Chemical and Pharmaceutical Sciences 2016; 9 (4): 3438-3448.
- [19] Mahmoudi GHA, Astaraki P, Mohtashami AZ, Ahadi M. Nacetylcysteine overdose after acetaminophen poisoning. International Medical Case Reports Journal 2015; 8; A13: 65-69.
- [20] 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.
- [21] Mahmoudi GA, Astaraki P, Nasiri M, Tarrahi MJ, Masoudi R. Evaluation of medical error status in various wards of Shohadaye Ashayer Hospital, Khorramabad, Iran. Journal of Global Pharma Technology 2016; 10 (8): 27-31.
- [22] Mehralian G, Nazari JA, Zarei L, Rasekh HR. The effects of corporate social responsibility on organizational performance in the Iranian pharmaceutical industry: The mediating role of TQM. Journal of Cleaner Production 2016; 135: 689-698.
- [23] Baharvand-Ahmadi B, Asadi-Samani M. Medicinal plants and treatment of hypertension; evidence from Iran. J Nephropharmacol. 2017;6(1):3-8.
- [24] Delfani S, Mohammadrezaei-Khorramabadi R, Ghamari S, Boroujeni R.K, Khodabandeloo N, Khorzoughi MG, Shahsavari S. Systematic review for phytotherapy in Streptococcus Mutans. Journal of Pharmaceutical Sciences and Research 2017; 9 (5): 552-561.
- [25] Saffari-Chaleshtori J, Heidari-Soreshjani E, Asadi-Samani M. Computational study of quercetin effect on pre-apoptotic factors of Bad, Bak and Bim. J Herbmed Pharmacol. 2016;5(2):61-66.
- [26] Shahtalebi MA, Sadat Hosseini A, Safaeian L. Preparation and evaluation of clove oil in emu oil self-emulsion for hair conditioning and hair loss prevention. J Herbmed Pharmacol. 2016;5(2):72-77.
- [27] Mirhosseini M, Baradaran A, Rafieian-Kopaei M. Anethum graveolens and hyperlipidemia: A randomized clinical trial. J Res Med Sci 2014;19:758-61
- [28] Madihi Y, Merrikhi A, Baradaran A, Rafieian-kopaei M, Shahinfard N, Ansari R, Shirzad H, Mesripour A. Impact of sumac on postprandial high-fat oxidative stress. Pak J Med Sci. 2013; 29 (1): 340-345.
- [29] Rafieian-Kopaie M, Baradaran A. Plants antioxidants: From laboratory to clinic. J Nephropathol. 2013; 2(2): 152-153.
- [30] Rafieian-Kopaei M, Baradaran A, Rafieian M. Oxidative stress and the paradoxical effects of antioxidants. J Res Med Sci. 2013; 18(7): 628.

- [31] Baradaran A, Nasri H, Nematbakhsh M, Rafieian-Kopaei M. Antioxidant activity and preventive effect of aqueous leaf extract of Aloe Vera on gentamicin-induced nephrotoxicity in male Wistar rats. Clinica Terapeutica. 2014;165(1):7-11. doi: 10.7471/CT.2014.1653.
- [33] Ghaed F, Rafieian-Kopaei M, Nematbakhsh M, Baradaran A, Nasri H. Ameliorative effects of metformin on renal histologic and biochemical alterations of gentamicin-induced renal toxicity in Wistar rats. J Res Med Sci. 2012; 17 (7): 621-625.
- [33] Nasri H, Nematbakhsh M, Rafieian-Kopaei M. Ethanolic extract of garlic for attenuation of gentamicin-induced nephrotoxicity in Wistar rats. Iran J Kidney Dis. 2013 Sep;7(5):376-82.
- [34] Asadi SY, Parsaei P, Karimi M, Ezzati S, Zamiri A, Mohammadizadeh F, Rafieian-Kopaei M. Effect of green tea (Camellia sinensis) extract on healing process of surgical wounds in rat. Int J Surg. 2013;11(4):332-7. doi: 10.1016/j.ijsu.2013.02.014. Epub 2013 Feb 28.
- [35] Shirzad H, Taji F, Rafieian-Kopaei M. Correlation between antioxidant activity of garlic extracts and WEHI-164 fibrosarcoma tumor growth in BALB/c mice. J Med Food. 2011 Sep; 14(9):969-74.
- [36] Heidarian E, Rafieian-Kopaei M. Protective effect of artichoke (Cynara scolymus) leaf extract against lead toxicity in rat. Pharm Biol. 2013 Sep;51(9):1104-9. doi: 10.3109/13880209.2013.777931. Epub 2013 Jun 7.
- [37] Vahedi G, Khosravi AR, Shokri H, Moosavi Z, Delirezh N, Sharifzadeh A, et al. Fungicidal effect of Origanum vulgare essential oil against Candida glabrata and its cytotoxicity against macrophages. J Herbmed Pharmacol. 2016;5(2):78-84.
- [38] 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.
- [39] 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.
- [40] Bahmani M, Sarrafchi A, Shirzad H, Rafieian-Kopaei M. Autism: Pathophysiology and promising herbal remedies. Curr Pharm Des. 2016; 22(3):277–285. DOI: 10.2174/1381612822666151112151529
- [41] 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
- [42] 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.
- [43] Bahmani M, Banihabib E Rafieian-Kopaei M, Gholami-Ahangaran M. Comparison of disinfection activities of nicotine with copper sulphate in water containing limnatis nilotica. Kafkas Univ Vet Fak Derg2015; 21 (1): 9-11
- [44] 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
- [45] Bahmani M, Shirzad H, Rafieian S, Rafieian-Kopaei M. Silybum marianum: Beyond Hepatoprotection. J Evid Based Complementary Altern Med. 2015, 20(4) 292-301.
- [46] 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.
- [47] Ghaed F, Rafieian-Kopaei M, Nematbakhsh M, Baradaran A, Nasri H. Ameliorative effects of metformin on renal histologic and biochemical alterations of gentamicin-induced renal toxicity in Wistar rats Amini, FG. J Res Med Sci. 2012; 17 (7): 621-625.
- [48] Rafieian-Kopaei M, Asgary S, Adelnia A, Setorki M, Khazaei M, Kazemi S, Shamsi F. The effects of cornelian cherry on atherosclerosis and atherogenic factors in hypercholesterolemic rabbits. J Med Plants Res. 2011; 5(13): 2670-2676.
- [49] 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.
- [50] 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.

- [51] Sharafati-Chaleshtori R, Shirzad H, Rafieian-Kopaei M, Soltani A. Melatonin and human mitochondrial diseases. J Res Med Sci 2016;21:138.
- [52] Ganji-Arjenaki M, Rafieian-Kopaei M. Probiotics are a good choice in remission of inflammatory bowel diseases: A Meta Analysis and systematic review. Journal of Cellular Physiology. 2017 Mar 15. PubMed PMID: 28294322.
- [53] Rafieian-Kopaei M, Shahinfard N, Rouhi-Boroujeni H, Gharipour M, Darvishzadeh-Boroujeni P. Effects of Ferulago angulata extract on serum lipids and lipid peroxidation. Evidence-Based Complementary and Alternative Medicine; 2014 (2014), Article ID 680856, 4 pages <u>http://dx.doi.org/10.1155/2014/680856</u>.
- [54] 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.
- [55] Shayganni E, Bahmani M, Asgary S, Rafieian-Kopaei M. Inflammaging and cardiovascular disease: Management by medicinal plants, Phytomedicine. 2015, <u>http://dx.doi.org/10.1016/j.phymed.2015.11.004</u>.
- [56] Heidarian E, Rafieian-Kopaei M. Protective effect of artichoke (Cynara scolymus) leaf extract against lead toxicity in rat. Pharm Biol. 2013 Sep;51(9):1104-9.
- [57] Asgharzade S, Rafieian-kopaei M, Mirzaeian A, Reiisi S, Salimzadeh L. Aloe vera toxic effects: expression of inducible nitric oxide synthase (iNOS) in testis of Wistar rat. Iran J Basic Med Sci. 2015 Oct;18(10):967-73.
- [58] Heidarian E, Rafieian-Kopaei M. Amelioration of lead toxicity from rat liver with artichoke leaf extract. Toxicol Lett. 2012 Jun 17;211:S142-S.
- [59] Rafieian-Kopaei M, Nasri H. The Ameliorative Effect of Zingiber officinale in Diabetic Nephropathy. Iran Red Crescent Me. 2014 May;16(5).
- [60] Amini FG, Rafieian-Kopaei M, Nematbakhsh M, Baradaran A, Nasri H. Ameliorative effects of metformin on renal histologic and biochemical alterations of gentamicin-induced renal toxicity in Wistar rats. J Res Med Sci. 2012 Jul;17(7):621-5.
- [61] Mirhosseini M, Baradaran A, Rafieian-Kopaei M. Anethum graveolens and hyperlipidemia: A randomized clinical trial. J Res Med Sci. 2014 Aug;19(8):758-61.
- [62] Rahnama S, Rabiei Z, Alibabaei Z, Mokhtari S, Rafieian-kopaei M, Deris F. Anti-amnesic activity of Citrus aurantium flowers extract against scopolamine-induced memory impairments in rats. Neurol Sci. 2015 Apr;36(4):553-60.
- [63] Bahmani M, Shirzad H, Majlesi M, Shahinfard N, Rafieian-Kopaei M. A review study on analgesic applications of Iranian medicinal plants. Asian Pac J Trop Med. 2014 Sep;7:S43-S53. PubMed PMID: WOS:000354433300007.
- [64] 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 Sep;7:S14-S21.
- [65] Saki K, Bahmani M, Rafieian-Kopaei M. The effect of most important medicinal plants on two importnt psychiatric disorders (anxiety and depression)-a review. Asian Pac J Trop Med. 2014 Sep;7:S34-S42.
- [66] Bahmani M, Banihabib E, Rafieian-Kopaei M, Gholami-Ahangaran M. Comparison of Disinfection Activities of Nicotine with Copper Sulphate in water Containing Limnatis nilotica. Kafkas Univ Vet Fak. 2015 Jan-Feb;21(1):9-11.
- [67] 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 Sep;7:S22-S8.
- [68] Lorigooini Z, Kobarfard F, Ayatollahi SA. Anti-platelet aggregation assay and chemical composition of essential oil from Allium atroviolaceum Boiss growing in Iran. International Journal of Biosciences (IJB). 2014;5(2):151-6.
- [69] Hosseinzadeh B, Khoshtaghaza M, Loriooini.Z, Minaei S, Zareiforoush H. Analysis of the combinative effect of ultrasound and microwave power on Saccharomyces cerevisiae in orange juice processing. Innovative Food Science and Emerging Technologies. 2015;32:110-115.
- [70] Hosseinzadeh B, Zareiforoush H, lorigooini. Z, Ghobadian B, Rostami S, Fayyazi E. Ultrasonic-assisted production of biodiesel from Pistacia atlantica Desf. Oil. Fuel. 2016;168:22-26.

- [71] Lorigooini Z, Ayatollahi SA, Amidi S, Kobarfard F. Evaluation of anti-platelet aggregation effect of some Allium species. Iranian journal of pharmaceutical research: IJPR. 2015;14(4):1225.
- [72] Bahmani M, Zargaran A, Rafieian-Kopaei M, Saki K. Ethnobotanical study of medicinal plants used in the management of diabetes mellitus in the Urmia, Northwest Iran. Asian Pac J Trop Med. 2014 Sep;7:S348-S54. PubMed PMID: WOS:000354433300062.
- [73] Bahmani M, Zargaran A, Rafieian-Kopaei M. Identification of medicinal plants of Urmia for treatment of gastrointestinal disorders. Rev Bras Farmacogn. 2014 Jul-Aug;24(4):468-80.
- [74] Fasihzadeh, S, Lorigooini, Z, Jivad, N. Chemical constituents of Allium stipitatum regel (persian shallot) essential oil. Der Pharmacia Lettre. 2016;8 (1):175-180.
- [75] Ghasemi S, Lorigooini Z. A review of significant molecular mechanisms of flavonoids in prevention of prostate cancer. Journal of Chemical and Pharmaceutical Sciences. 2016;9: 3388-3394.
- [76] Zarei L, Naji-Haddadi S, Pourjabali M, Naghdi N, Tasbih-Forosh M, Shahsavari S. Systematic Review of Anti-Rheumatic Medicinal Plants: An Overview of the Effectiveness of Articular Tissues and Joint Pain Associated with Rheumatoid Arthritis. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 547-551.
- [77] Pourjabali M, Mohammadrezaei-Khorramabadi R, Abbaszadeh S, Naghdi N, Naji-Haddadi S, Bahmani F. Medicinal Plants Used For Hypertension. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 537-541.
- [78] Karimi M, Naghdi N, Naji-Haddadi S, Bahmani F. Medicinal Plants Used For Kidney Pain. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 542-546.
- [79] Delfani S, Mohammadrezaei-Khorramabadi R, Ghamari S, Khadivi-Boroujeni R, Khodabandeloo N, Ghadirali Khorzoughi M, Shahsavari S. Systematic Review for Phytotherapy in Streptococcus Mutans. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 552-561.
- [80] Delfani S, Mohammadrezaei-Khorramabadi R, Abbaszadeh S, Naghdi N, Shahsavari S. Phytotherapy for Streptococcus pyogenes. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 513-526.

- [81] Zarei L, Pourjabali M, Naghdi N, Naji-Haddadi S, Bahmani E. A Systematic Review of the Most Important Medicinal Plants Native to Iran Effective on Testicular Morphology and Hormonal Testicular Function. J. Pharm. Sci. & Res. Vol. 9(5), 2017, 562-567.
- [82] Baharvand-Ahmadi B, Bahmani M, Naghdi N, Saki K, Baharvand-Ahmadi S, Rafieian-Kopaei, M. Review on phytochemistry, therapeutic and pharmacological effects of myrtus (Myrtus communis) Der Pharmacia Lettre 2015;7 (11):160-165.
- [83] Bahmani, M., Rafieian-Kopaei, M. Medicinal plants and secondary metabolites for leech control Asian Pacific Journal of Tropical Disease 2014; 4 (4): 315-316.
- [84] Delfan, B., Kazemeini, H., Bahmani, M. Identifying Effective Medicinal Plants for Cold in Lorestan Province, West of Iran. Journal of Evidence-Based Complementary and Alternative Medicine 2015; 20 (3): 173 179.
- [85] Baharvand-Ahmadi, B., Bahmani, M., Zargaran, A., Eftekhari, Z., Saki, K., Baharvand-Ahmadi, S., Rafieian-Kopaei, M. Ruta graveolens plant: A plant with a range of high therapeutic effect called cardiac plant .Der Pharmacia Lettre2015; 7 (11):172-173.
- [86] Asadi-Samani M, Kafash-Farkhad N, Azimi N, Fasihi A, Alinia-Ahandani E, Rafieian-Kopaei M. Medicinal plants with hepatoprotective activity in Iranian folk medicine. Asian Pacific Journal of Tropical Biomedicine. 2015;5(2):146-57.
- [87] 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):153-60.
- [88] Parsaei P, Bahmani M, Naghdi N, Asadi-Samani M, Rafieian-Kopaei MM, Boroujeni S. Shigellosis phytotherapy: A review of the most important native medicinal plants in Iran effective on Shigella. Der Pharmacia Lettre. 2016;8(2):249-55.
- [89] Mohsenzadeh A, Ahmadipour S, Ahmadipour S, Asadi-Samani M. Iran's medicinal plants effective on fever in children: A review. Der Pharmacia Lettre. 2016;8(1):129-34.