Effect of medicinal and aromatic plants in primary healthcare system of Iranian tribal communities

A. Ghasemi Pirbalouti, Shahrekord Branch, Islamic Azad University, Research Center for Medicinal Plants & Ethno-veterinary, Medicinal Plants Department, PO. Box: 166, Shahrekord, Iran; Medicinal Plants Program, Stockbridge School of Agriculture, Collage of Natural Science, University of Massachusetts, Amherst, MA 01003, USA

L. Craker, Medicinal Plants Program, Stockbridge School of Agriculture, Collage of Natural Science, University of Massachusetts, Amherst, MA 01003, USA

Abstract (300 word limit)

Numerous bioactive secondary metabolites of plants are used various industries like pharmaceutical, chemical, cosmetic, folk medicine, food flavoring, and preservation as well as in food industries. There is about 35,000 to 70,000 plant species that have been used for medicinal purposes worldwide from which, the application of 6,500 species is related to the Asia. Iran has a long medicinal tradition and traditional learning of plant remedies. Medicinal plants are an important element of medical system. These resources are usually regarded as part of cultural traditional knowledge. The aim of this study was to evaluate the in vitro antioxidant, antibacterial activities and phytochemical properties of the essential oils from Iranian herbs belonging to the families Lamiaceae, Apiaceae, and Myrtaceae. The essential oils from different species of Iranian herbs were analyzed using GC–FID, and GC/MS. The antioxidant activity of the essential oils was done by DPPH assay. Flora of the studied region appears to be a rich and interesting source for supplementary phytochemical studies. Results of GC-FID and GC/MS analysis indicated that the main constituents of the essential oils from some Iranian herbs were monoterpenes oxygenated and hydrogenated monoterpenes in most species. In addition, the studied herbs have high amounts of total phenolic and flavonoids in the extract. A main finding in this study was that the spice and condiment plants demonstrated much higher antioxidant activity and contained significantly more phenolic than other Iranian species of herbs that are considered as good natural sources of dietary antioxidants. Strong antibacterial activity and antioxidant properties of the essential oils and extracts from Iranian herbs are very important from the economic point of view considering the availability of plant material for production of natural antibacterial and antioxidant products. In conclusion, results of this study reveal that some of species play an important role in primary healthcare system of these tribal communities.

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Image



Recent Publications (minimum 5)

1. Gourine N, Yousfi M, Bombarda I, Nadjemic B, Gaydou E (2010) Seasonal variation of chemical composition and antioxidant activity of essential oil from *Pistacia atlantica* Desf. leaves from Algeria. Ind Crops Prod. 87:157-66.
2. Ghasemi Pirbalouti A, Siahpoosh A, Setayesh M, Craker L (2014) Antioxidant activity, total phenolic and flavonoid contents of some medicinal and aromatic plants used as herbal teas and condiments in Iran. J. Med. Food 17:1151–1157.
3. Ghasemi Pirbalouti A (2010) Medicinal and Aromatic Plants (Introduction and Application). 2th Ed., I.A.U. Press, Iran, pp. 551.
4. Ghasemi Pirbalouti A, Craker LE (2015) Diversity in chemical compositions of essential oil of myrtle leaves from various natural habitats in south and southwest Iran. J. For. Res. 26:971–981.
5. Imelouane B, Elbachiri A, Ankit M, Benzeid H, Khedid K (2009) Physico–chemical compositions and antimicrobial activity of essential oil of eastern Moroccan *Lavandula dentate*. Int J Agric Biol. 11:113–118.

Biography (150 word limit)



Abdollah Ghasemi Pirbalouti is professor at Medicinal Plants Department, Islamic Azad University, Shahrekord Branch, Iran. He has spent the past 17 years working with medicinal and aromatic plants, and considerable experience plant production and biology, botany, phytochemistry, and pharmacognosy. He is familiar with medicinal and aromatic plants production, and quality control for the development of new products. His experience also includes laboratory extraction and essential oil constituent analysis using gas chromatography, mass spectrometry, and HPLC. In addition, he is chief in editor of Journal of Herbal Drugs, International Journal of Medicinal Herbs (www.jhd.iaushk.ac.ir). During 2012-2013, he worked as a Research Scholar in the Medicinal Plant Program at the University of Massachusetts, Amherst, Massachusetts, USA.

Email: ghasemi955@yahoo.com
ghasemi@iaushk.ac.ir

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