



EDITORIAL

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Trends in publication of evidence-based Traditional Iranian medicine in endocrinology and metabolic disorders

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Abstract

Traditional Iranian medicine (TIM) is a main part of complementary and alternative medicine (CAM). The popularity and use of alternative therapies are increasing due to adverse effects and ineffectiveness of pharmacologic treatments in some cases. Herbal medicine is one of the methods of traditional therapy that plays a key role in the treatment of various diseases specifically in diabetes mellitus, hyperlipidemia and obesity that are growing rapidly in the world. In this article, trends of scientific publications of Iranian medicine in endocrinology and metabolic disorders have been investigated. Our data show that the numbers of related researches have uptrend from 2000 till now. These data are valuable to pharmaceutical companies to get the idea to invest and produce effective drugs.

Keywords: Complementary medicine, Alternative medicine, Herbal medicine, Traditional Iranian medicine, Pharmacologic treatments, Pharmaceutical companies

Background

Obesity, diabetes mellitus and metabolic disorders are the most major health problems with increasing prevalence all over the world [1,2]. For example, the global prevalence of type 2 diabetes for all age-group in the world was about 2.8% in the year 2000 and it is appraised to become 4.4% by 2030 [3]. The main reasons of these disorders are change in behaviors, nutrition and sedentary lifestyle [4]. In addition, estimated total numbers of obese and overweight adults in the world in 2005 were respectively 369 million and 937 million [5]. In comparison to 20 years ago, these figures have been doubled [6]. It is estimated that these numbers will be 537 million and 1.35 billion for obese and overweight adults, respectively [5]. The reported prevalence of obesity and overweight in Iran was 42.8% in men and 57% in women in 2005 [7]. The numbers are estimated to be 54% and 74%, respectively in 2015 [8].

The popularity and use of alternative therapies are increasing dramatically because pharmacologic treatments have adverse effects and are somehow ineffective in some conditions. In addition, alternative medicine appears to be more conformable with patients' beliefs and values [9]. Herbal medicine is one of the methods used in traditional medicine that is the most popular complementary and alternative medicine (CAM) modality and plays a key role in treatment of several disorders specifically in Eastern countries and some developed countries like Germany, France, Italy and United states [10-13]. During recent decades, modern medicine has achieved explosive developments, but plants are still a cornerstone of health care and medical prescriptions [13]. Based on the World Health Organization (WHO), 65-80% of the world's population living in developing countries need to herbal medicines because they have no access to modern medicine [14] due to poverty and lack of safe modern drugs. Evaluation of medicinal plants efficacy for treatment of some disorders such as diabetes has been recommended by WHO [15].

Nowadays, herbal products are used for prevention, mitigation and treatment of some diseases like a drug

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Table 1 Highly cited articles according to the area of studies

Category of articles	Author	Year	Number of citation
Diabetes	FallahHuseini et al.	2006	103
	Hasani-Ranjbar et al.	2009	100
	Ziai et al.	2005	68
Hyperlipidemia	Asgary et al.	2000	63
	Kojuri et al.	2007	46
Obesity	Hasani-Ranjbar et al.	2010	28
	Hasani-Ranjbar et al.	2009	93
Phytochemistry and pharmacologic studies	Iranshahi et al.	2011	22
	Mosaddegh et al.	2012	13

but some of them has been found unsafe and only a few have been evaluated adequately by modern tests [13,16].

Considering above points, it is clear that many traditional plants are used for treatment of diseases in Iran and throughout the world as adjuncts to conventional therapy. In this paper, we have introduced the studies which are about herbal medicines performed in Iran. Our investigation has been conducted based on area of studies including diabetes mellitus, hyperlipidemia, obesity and hyperprolactinemia, phytochemistry and pharmacologic studies. Moreover, highly cited articles in each category have been presented. Data from this paper will be valuable not only for identifying the

trends in evidence based traditional medicine in Iran, but also for researchers to applying highly cited studies.

To find useful medicinal plants in endocrinology and metabolic disorders, PubMed, Scopus and Google scholar were searched up to now. The search terms were “plant”, “herb”, “traditional”, “herbal medicine”, “naturopathy”, “phytotherapy” or “healing plant” and “Iran”. The specific search terms for diabetes, hyperlipidemia, obesity and hyperprolactinemia were “diabetes”, “hyperlipidemia” or “dyslipidemias”, “obesity” or “obese” or “overweight”, “hyperprolactinemia” or “prolactinoma” or “prolactin” respectively.

Area of studies

Diabetes

The number of published studies regarding the effects of herbal medicine on diabetes is high. Forty four articles were found in this field [10,17-59]. Highly cited articles in these areas were: “The efficacy of *Silybummarianum* (L.) Gaertn. (silymarin) in the treatment of type II diabetes: a randomized, double-blind, placebo-controlled, clinical trial” [34], which has been cited 103 times in Google scholar and 58 times in Scopus; “A systematic review of the potential herbal sources of future drugs effective in oxidant-related diseases” [55], 100 times in Google scholar and 87 times in Scopus; “*Psyllium* decreased serum glucose and glycosylated hemoglobin significantly in diabetic outpatients” [54], 68 times in Google scholar and 47 times in Scopus.

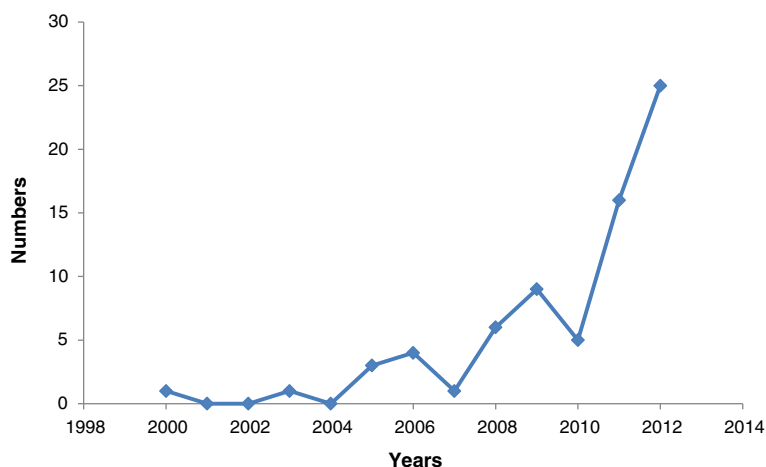


Figure 1 Numbers of herbal medicine published in Iran from 2000 to 2013.

Hyperlipidemia

Fifteen studies were performed about this issue in Iran [60-74] and highly cited articles were: "Antihypertensive and antihyperlipidemic effects of *Achillea wilhelmsii*" [61], that cited 63 times in Google scholar and 30 times in Scopus; "Effects of *Anethum graveolens* and garlic on lipid profile in hyperlipidemic patients" [67], cited 46 and 21 times in Google scholar and Scopus, respectively; "The efficacy and safety of herbal medicines used in the treatment of hyperlipidemia; a systematic review" [65], cited 28 times in Google scholar and 22 times in Scopus.

Obesity

In this field, 12 related articles have been published in Iran [75-87]. Highly cited article is: "A systematic review of the efficacy and safety of herbal medicines used in the treatment of obesity" [79], which cited 93 and 65 times in Google scholar and Scopus, respectively.

Hyperprolactinemia

The search results showed that 2 articles have been published about this issue up to now in Iran [88,89] including: "A systematic review on the efficacy of herbal medicines in the management of human drug-induced hyperprolactinemia: Potential sources for the development of novel drugs" [89], cited 11 and 10 times in Google scholar and Scopus, respectively and "Effect of *Vitex agnus-castus* L. leaf and fruit flavonoid extracts on serum prolactin concentration" [88], cited 4 times in Google scholar and 3 times in Scopus.

Phytochemistry and pharmacological studies

In the results of our search, there were 11 studies that had investigated the phytochemistry and pharmacological properties of a plant or plants of a specific region in Iran [90-100]. The highly cited published articles about these topics are: "Traditional uses, phytochemistry and pharmacology of *Asafoetida* (*Ferula assa-foetida* oleo-gum-resin)-a review" [92], which has been cited 22 times in Google scholar and 17 times in Scopus and "Ethnobotanical survey of herbal remedies traditionally used in Kohgiluyeh-Boyer-Ahmad province of Iran" [96], that cited 13 and 5 times in Google scholar and Scopus.

Trends

According to the area of studies, highly cited studies have been shown in Table 1. In addition, Figure 1 illustrates the trend of published articles in the recent years. Trends in these articles show that the number of evidence-based studies about traditional medicine is growing in Iran.

Conclusion

The TIM has been under attention of the researchers in the recent years. The number of related researches has uptrend from 2000 until now. Our data show a great enthusiasm towards the TIM specifically herbal medicine that has a historical background in Iran. This paper opens a new window towards future studies.

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