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The Frequency of Using Herbal Medicines Among Patients With Hypertension in Kerman, Iran, 2012-2013

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Abstract

Introduction. The use of medicinal plants has dramatically increased in recent years. Given the increasing rate of hypertension and medical plants usage by these patients and considering drug interactions due to concomitant use with drugs, the present study aims to evaluate the rate of medicinal plants usage in hypertensive patients. *Methods*. This is a cross-sectional study (descriptive–analytical) in which 650 hypertensive patients referring to the subspecialty clinic of Kerman were questioned about medicinal plants usage by a medicinal plants questionnaire. Among these patients, there were 612 who consented to participate. After the variables were described, the data were finally analyzed using Stata 12. *Results*. The average age of those using these drugs in the past year was 58.8 $\pm$ 10 years. Of the total number of participants using medicinal plants, there were 58 males (23.5%) and 122 females (33.4%). There were 129 participants (72.5%) using medicinal plants through self-administration, 17 participants (9.5%) on experienced users' advice, 16 participants (9%) as administered by herbalists, and 11 participants (6%) as administered by doctors. However, the most important resources for using a drug that prevents hypertension were family and friends (74 participants; 41.5%) and doctors (13 participants; 7.3%). According to the results, there was no significant difference between the level of education and medicinal plants usage ($P = .95$); however, there was a significant difference between gender and medicinal plants usage ($P = .009$). *Discussion*. According to the results indicating the relatively high prevalence of medicinal plants usage and their arbitrary use by hypertensive patients without consulting a specialist, it seems necessary to plan for more effective and secure public education and train people to provide herbal drug services for various diseases with hypertension being the most common one.

Keywords

herbal medicines, hypertensive, self-administration

Hypertension is defined as systolic blood pressure $\geq$140 mm Hg or diastolic pressure $\geq$90 mm Hg.[1,2] The World Health Organization has estimated more than 7 million mortalities per year due to hypertension, and since this rate accounts for 13% of the worldwide mortalities, preventing this increasing trend can significantly decrease health care expenses.[3] There are various treatments for high blood pressure,[4] and among nature-based medications, plants have a major role in traditional medical systems of countries such as China[5] and India.[6] These herbal-based therapeutic systems still have a basic role in human health. On the other hand, in the recent years, several adverse effects of some medicines have been observed that affect not only the patient but also future generations; for this, a new attitude toward using herbal medicines with less adverse effects has prevailed.[7] From many years, plants have been considered the best available sources for therapeutic purposes, but in line with the development of chemical drugs produced in various forms, use of herbal medicine has become limited,[7] even though, nowadays, special attention to these therapeutic sources has been developed[8] in a way that the 20th century has been named the century of return to herbal medicine by well-known pharmacologists.[9] As some examples, there are limited human[10,11] and animal[12-14] studies in relation to the effects of olive leaf on hypertension, soya on decreasing

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Table 1. Demographic Differences Between Consumers and Nonconsumers of Herbal Medicines in Patients With Hypertension.

Variable	Total, n (%)	Consumers of Herbal Medicine		P Value
		Yes, n (%)	No, n (%)	
Age, years (mean ± SD)	61.0 ± 10	58.8 ± 10	62.0 ± 10	.001
Gender				.005
Male	247 (40.4)	58 (32.2)	189 (43.8)	
Female	365 (59.6)	122 (67.8)	243 (56.2)	
Marital status				.43
Married	531 (86.8)	155 (86.1)	376 (87.0)	
Single	81 (13.2)	25 (13.9)	56 (13.0)	
Length of education				.95
≤1 year	148 (24.2)	45 (25.0)	103 (23.8)	
2-6 years	82 (13.4)	24 (13.3)	58 (13.4)	
7-9 years	155 (25.3)	42 (23.3)	113 (26.2)	
10-12 years	146 (23.9)	45 (25.0)	101 (23.4)	
≥13 years	81 (13.2)	24 (13.4)	57 (13.2)	

systolic blood pressure,[15] and garlic on decreasing blood pressure.[16] In a study on 20 effective plants in the treatment of hypertension, the highest rates of angiotensin-converting enzyme inhibition were reported for cherry, *Althaea officinalis* and *Rubia* tinctorum.[17] In another study on hypertensive patients, consumption of 50 mL of pomegranate juice for 2 weeks decreased systolic blood pressure.[18] Since there has been a significant increasing trend in the world for consumption of herbal medicines,[19] improving physician–patient relationship in regard to preventing drug interferences due to the continuous or simultaneous consumption of herbal and chemical drugs seems necessary. With regard to the importance of this issue, planning for general education and also training experts for providing more effective and safer complementary and herbal medical interventions in various diseases and hypertension, as the most common of them, seems to be necessary. The aim of the present study was to determine the prevalence of using herbal medicines in hypertension in order to help future planning.

Method

In this cross-sectional study, 650 hypertensive patients participated in KERCADER project in Besat subspecialty clinic in Kerman, Iran[20] who had blood pressure ≥140/90 mm Hg in 2 measurements or were receiving antihypertensive medicines. After selection of patients based on inclusion criteria, through a telephone call by a trained person, 612 patients filled a questionnaire in relation to the use of herbal medicines. The reliability and validity of questionnaire had been previously confirmed.[21] After description of variables, the frequency of using different types of herbal medications for hypertension was determined, and using binomial distribution the confidence interval was calculated as 95%. Then, the relationship between using these medicines and underlying variables was first evaluated by simple tests such as χ^2 test. Data analysis was performed through Stata 12 and using independent *t* test for comparison of means and χ^2 test for comparison of ratios. $P < .05$ was considered as statistical significant.

Results

From a total of 650 patients, 612 (94%) participated in the present study. The mean age of the participants was 61.0 ± 10 years. The mean age of patients who had used herbal medicines during the last year (58.8 ± 10 years) showed a significant difference ($P < .001$) with mean age of patients who had not used these medicines (62.0 ± 10 years).

From the 612 participants, 180 patients (29.4%) used herbal medicines, of which 58 (23.5%) were male and 122 (33.4%) were female. This shows a higher frequency of use of herbal medicines among females compared with males ($P = .005$). But there was no significant relationship between using herbal medicines and variables of marital status and length of educational (Table 1).

Among all participants, 129 patients (72.5%) had used the medicines without being told, 17 patients (9.5%) had used because of recommendations by experienced personss, 16 patients (9%) had used with grocer prescription, and 11 patients (6%) had used with physician prescription.

In total, 44 patients (25 women and 19 men) were completely satisfied and 119 (85 women and 34 men) were relatively satisfied of using herbal medicines. Other participants were dissatisfied of using these drugs.

The main reason for using herbal medicines by 169 patients (93.8%) was for decreasing blood pressure followed by adjuvant therapy (159 patients; 88.3%) and diabetes (39 patients; 21.6%). See Figure 1.

From all who had used herbal medicines during the last year, 117 females (95.9%) and 53 males (91.3%) had used at most 2 herbal medicines for decreasing blood pressure, 43 patients (25 females and 18 males) had used them at most once, and 66 (49 females and 17 males) had on average used 2 or 3 times in a month.

The most important sources of using antihypertensive medicines were family members and friends (74 patients; 41.5%) and physician (13 patients; 7.3%). Among 177 patients using herbal medicines, 169 (95.4%) procured it from grocery stores, of whom 97 (57.4%) procured them in unpackaged form.

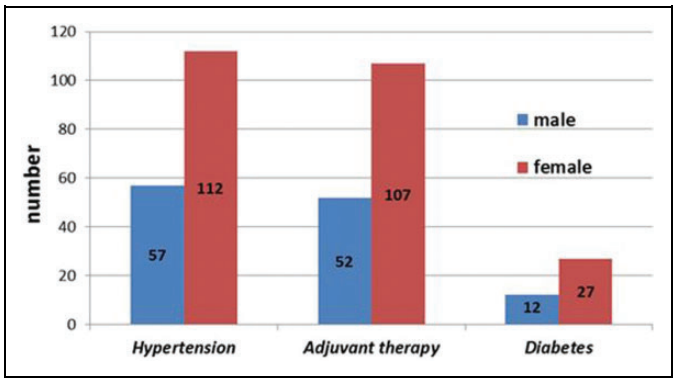

Figure 1. Frequency of use of herbal medicines to treat diabetes and high blood pressure in people with hypertension.

The most frequent used medicines were green tea (consumed by 87 patients; 49.1%), *Althaea officinalis* (used by 63 patients; 35.6%), and *Carthamus tinctorius* (used by 22 patients; 12.5%).

Discussion

According to the results obtained, one third of the studied patients used herbal medicines for decreasing their blood pressure, and the rate of using herbal medicines was higher in women when compared with men. This finding is similar to the results of some studies in the United States in which use of complementary medicines was higher in women than in men.[21,22]

In the present study, source of information about herbal medicine was personal experience in 72.5%. It was observed that most patients do not report the consumption of herbal medicines to their physicians and this can lead to drug interferences. In a study performed by Tehrani et al on complementary medicine, the most frequent type of complementary medicine used by subjects was taking herbal medicines, and the most important sources of information were personal and relatives' experiences.[23] According to a study by Saxena, since herbal medicines are often prescribed by those who might not have enough knowledge about drugs and drug interferences of herbal medicines and synthetic ones, serious side effects might occur.[24] Tesch has reported that most patients use herbal medicines and food supplements simultaneously with chemical medicines, and because of this, it is very important that physicians ask their patients about taking herbal medicines.[25]

In the present study, the rate of satisfaction of herbal medicines was low. This might be due to the prescription of these drugs by inexperienced persons or lack of information about the effective dose of medicines leading to their inefficacy and probable drug interferences. In recent years, use of herbal medicines has been increasing in a way that from 1990 to 1997, this rate has increased by 3.8% in the United States and the cost of the herbal medicines in 1998 was approximately US$4 billion.[26] Herbal products are extensively used for therapeutic purposes throughout the world including Iran. Being natural, safe, and compatibility with patients' beliefs are reasons for their popularity. Mostly, patients use herbal medicines based on their relatives' or local healers' recommendation. There is a poor relationship between physicians and patients with regard to simultaneous use of herbal products and in most cases physicians do not ask their patients about that. There are incorrect beliefs among patients about the safety of herbal medicines and the necessity of informing their physicians of their taking these products. Most patients believe that simultaneous consumption of prescribed medicines and herbal products is safe, especially if they are used for different disorders.[19]

Although a majority of herbal medicines have been traditionally considered beneficial, their use deserves more attention, not only because of the increasing trend of their use and the imposed expense on patients but also because of their potential harmful and unknown effects, and the consumers should be warned about their use. Some risks such as herbal medicines' interference with other medicines taken and their incongruity with physiologic status require physicians to ask their patients about consuming these products, and they should also increase their knowledge of herbal medicines.

The results of this study emphasize on the necessity of implementing effective training programs in order to improve knowledge of health providers in regard to the consumption, adverse effects, and drug interferences of common herbal medicines and also considering the history of taking herbal medicines at the time of patient visits.

Last, considering the World Health Organization recommendations in the 1992 congress, the following points are suggested:

1. Facilitating use of herbal medicines and accelerating their distribution in the country's health system
2. Increasing and developing wise consumption of herbal medicines based on approved international standards and guidance
3. Active participation in establishing a traditional medicines information bank

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Author Contributions

The work presented here was carried out through collaboration between all authors. HT defined the research theme. HT, KD, and MM designed methods; ZE and MS collected data; and AAH and MM analyzed the data and interpreted the results. All authors have contributed to, seen, and approved the article.

Declaration of Conflicting Interests

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Ethical Approval

The work was approved by the Ethics Committee of Kerman University of Medical Sciences.

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