



Herbal Methods Used for Decreasing High Blood Pressure Among Hypertensive Patients

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Abstract

The present study was conducted in order to determine herbal methods used by the patients with hypertension to decrease high blood pressure. This cross-sectional, descriptive, analytical study was conducted in 87 volunteer hypertensive patients admitted to Şişli Hamidiye Etfal Training and Research Hospital, Family Medicine Polyclinics between 01.05.2014-01.07.2014. As well as sociodemographic characteristics of the patients, questions about herbal methods that they use for hypertension were asked and the related attitudes and behaviors was evaluated. Data were evaluated in SPSS 16.0 version by using frequency, chi-square and T test; $p < 0.05$ was accepted as statistically significant.

Finally; hypertensive patients use herbal alternative methods beside medicine and diet treatments. Patients should be informed about right herbal use. Treatment of hypertension by alternative methods must be performed with the principles of evidence-based medicine. All medical staff should pay attention on this subject and be aware of wrong herbal use.

Keywords: Nutrition; Hypertension; Diet

Introduction

Hypertension is a health problem that affects a significant part of the adult population all over the world and causes a high rate of morbidity and mortality (1). In a study that was carried out to determine hypertension prevalence, it was found that 26.4% of the adult population over the world was hypertensive in 2000 and it was estimated that this rate will reach 29.2% in 2025. And in Turkey, while general hypertension prevalence is 31.8%, it is 36.1% for women and 27.5% for men (2).

Hypertension is one of the most significant risk factors for cardiovascular diseases and kidney diseases in western Asian societies. Besides that, paralysis, renal impairment and cardiac insufficiency are among the most important

complications of hypertension and it is closely related with high mortality (2,3). It was determined that 44.7% of hypertensive patients are aware of their illness, but only 28.2% of them have medication. This shows that most patients have a high risk of cardiovascular illnesses. For hypertensive patients who are not treated coronary risk is 2 or 3 times higher than cerebrovascular risk. The results of meta-analysis studies show that every 2 mmHg decrease in systolic blood pressure provides 25% decrease in paralysis cases (4).

Hypertension can be treated with medical lifestyle changes and the aim in hypertension treatment is to control the illness by adapting the patient to the recommended medical, nutritive behavioral changes (5). Besides those



treatment methods, patients very often insensibly head for herbal remedies or supportive treatments in order to assist the treatment or to decrease/destroy the need for medication, or sometimes because they are worried that the treatment may not work (5,6). The aim of this study is to identify alternative herbal treatment methods that hypertensive patients utilize to decrease high blood pressure.

Material and Method

This study was carried out on 87 voluntary hypertension patients that applied to the Family Practice Polyclinic at Şişli Hamidiye Etfal Training and Research Hospital between the dates May 1, 2014 and July 1, 2014. Participants' demographic and health background and their use of herbal remedies was determined via a questionnaire with face to face meeting technique. Moreover, their anthropometric measures were gained and the herbal products they use to decrease blood pressure and the frequency they use these products were questioned. Also, they were asked why they use these products. Gained data were analyzed using frequency, chi-square and T test at SPSS16.0; $p < 0.05$ was accepted significant.

Results

In the study, among the 87 hypertensive patients with an average age of 61.3 ± 12.6 , 66.8% (n=58) were women and 33.2% (n=29) were men, and 65.5% were married. 40.2% of those patients were retired, 34.5% were housewives, and 11.5% were freelancers. 50.6% (n=44) were primary school graduates, 26.4% (n=23) were secondary school graduates and 23.0% (n=20) were higher education graduates.

The patients' average hypertension time was 9.7 ± 6.7 years. 29.9% (n=26) of the patients

had been utilizing supportive treatment besides medication for an average of 7.7 ± 6.2 years, and 24.1% (n=21) had been utilizing only herbal remedies. 63.2% of the patients had been measuring their tension at their arms.

In addition to hypertension, 72.4% (n=63) of the patients had at least one chronic disease and the most frequent diseases were diabetes (42.5%, n=37) and cardiovascular diseases (31.0%, n=27). 80.5% of the patients had been following a diet treatment and 40.2% stated that they had been following the diet with the help of a dietitian.

In Table 1, the herbal products that the patients mainly prefer are presented. In our study, it is determined that patients mostly prefer lemon (18.4%, n=16), kefir (11.5%, n=10) and yoghurt (10.3%, n=9). When they were asked why they prefer herbal remedies, the most frequent answer was 'To control the disease.' (24.1%, n=21), and the second most frequent answer was 'To assist the medication.' (21.8%, n=19). When they were asked how they have learned about herbal remedies, 18.4% stated that they have learned about them from their 'social environment (family/friends)' and the second most frequent answer was 'I have learned myself' (18.4%, n=16). 25.3% of the patients stated that they had been using herbals every day. 62.1% pointed out that herbal treatment is not an effective method and 56.3% declared that they do not recommend it to other people. When the patients were asked what methods they use to control hypertension other than herbals, 60.9% answered 'salt limitation' and 26.4% said they had been 'doing exercise'. When they have a high blood pressure at home, 28.7% of the patients stated that they drink lemon juice as a first attempt, and 26.4% said that they relax. When they were asked what they do when they have hypertension in spite of medication, 42.5% said that they see the doctor, and 34.5% said that they eat garlic.

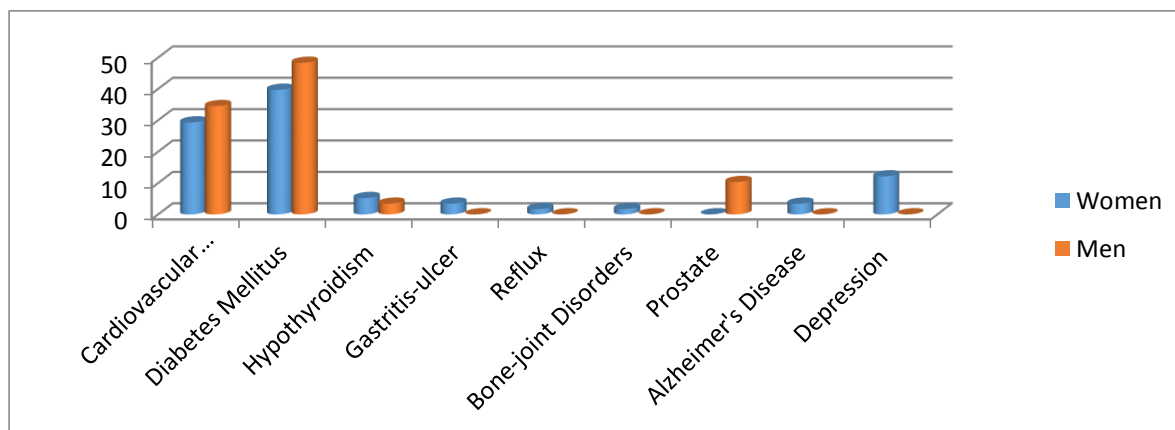


Figure 1. Other health problems of individuals with hypertension

Table 1. Herbal treatments used by hypertensive individuals

Preferred herbal treatments	Women		Men		Total	
	n	%	n	%	n	%
Lemon	14	24.1	2	6.9	16	18.4
Garlic	3	5.2	2	6.9	5	5.7
Yoghurt	7	12.1	2	6.9	9	10.3
Ginkgo biloba	4	6.9	1	3.4	5	5.7
Garlic yoghurt	1	1.7	-	-	1	1.1
Green tea	4	6.9	-	-	4	4.6
Stinging nettle	2	3.4	-	-	2	2.3
Cherry stalk	3	5.2	-	-	3	3.4
Camomile	1	1.7	-	-	1	1.1
Cabbage	2	3.4	2	6.9	4	4.6
Parsley	-	-	2	6.9	2	2.3
Parsley juice	1	1.7	2	6.9	3	3.4
Rosemary	-	-	2	6.9	2	2.3
Buttermilk	1	1.7	-	-	1	1.1
Olive tree leaves	5	8.6	-	-	5	5.7
Cucumber	5	8.6	-	-	5	5.7
Onion	1	1.7	1	3.4	2	2.3
Grapefruit	6	10.3	2	6.9	8	9.2
Kefir	10	17.2	-	-	10	11.5



Table 2. Herbal treatment choices of patients with hypertension

	Women		Men		Total	
	n	%	n	%	n	%
Reasons to use herbal supportive therapy						
To control the disease	13	22.4	8	27.6	21	24.1
Help to medical treatment	15	25.9	4	13.8	19	21.8
Drugs did not work	2	3.4	-	-	2	2.3
Proposed by family/friends for	2	3.4	-	-	2	2.3
It is a cheaper method	4	6.9	2	6.9	6	6.9
Less side effects of pharmaceutical	1	1.7	-	-	1	1.1
Herbal treatment choices learning resources						
Friends/family	14	24.1	2	6.9	16	18.4
Television	3	5.2	2	6.9	5	5.7
Internet	5	8.6	4	13.8	9	10.3
Herbalist	2	3.4	-	-	2	2.3
Health personnel	2	3.4	-	-	2	2.3
Myself	11	19.0	5	17.2	16	18.4
Frequency of use of herbal products						
Everyday	15	25.9	7	24.1	22	25.3
2-3 times a week	4	6.9	1	3.4	5	5.7
1 time a week	7	12.1	2	6.9	9	10.3
When blood pressure rises	5	8.6	-	-	5	5.7
Individuals use different methods to control their high blood pressure except herbal therapy						
Salt restriction	35	60.3	18	62.1	53	60.9
Exercise	16	27.6	7	24.1	23	26.4
Pray	3	5.2	2	6.9	5	5.7
Pour hot water to food	2	3.4	6	20.7	8	9.2
Not use by patients	10	17.2	8	27.6	18	20.7



Table 3. Preferred herbal treatment on high blood pressure

	Women		Men		Total	
	n	%	n	%	n	%
Patient's first intervention when blood pressure is high at home						
Drink lemon juice	15	25.9	10	34.5	25	28.7
Refer to doctor	12	20.7	2	6.9	14	16.1
Relaxing metoths	14	24.1	9	31.0	23	26.4
To take the medicine	7	12.1	3	10.3	10	11.5
Eat garlic	-	-	2	6.9	2	2.3
Drink buttermilk	-	-	1	3.4	1	1.1
Take a shower	2	3.4	2	6.9	4	4.6
Put up my feet	1	1.7	-	-	1	1.1
Put their head ice	7	12.1	-	-	7	8.0
The second intervention in case high blood pressure						
I refer to herbal treatment						
Lemon	7	12.1	3	10.3	10	11.5
Garlic	20	34.5	10	34.5	30	34.5
Take drugs again	18	31.0	4	13.8	22	25.3
Refer to doctor	27	46.6	10	34.5	37	42.5
Go to the pharmacy	4	6.9	-	-	4	4.6
Wash their head with cold water	4	6.9	4	13.8	8	9.2
Put their head cheesecloth	1	1.7	-	-	1	1.1
Get a warm shower	5	8.6	2	6.9	7	8.0
Eat garlic	2	3.4	2	6.9	4	4.6
Drink buttermilk	-	-	1	3.4	1	1.1
Relaxing	2	3.4	1	3.4	3	3.4

Discussion

Hypertension is very common all over the world and it is a preventable risk factor in the sense of cardiovascular diseases. This risk can be diminished via treatment. Irregular life-style change, diet and medication may cause other health risks. Toprak et al. determined in their study that hypertension patients have type 2 DM in a

rate of 47.2%, atherosclerotic cardiac diseases in a rate of 13.9%, cerebrovascular diseases in a rate of 12.5%, retinopathy in a rate of 6.9%, and renal impairment in a rate of 1.4% beside hypertension (7). And in our study, it was determined that hypertension patients have at least one other chronic disease (72.4%, n=63), and the most frequent diseases are



diabetes (42.5%, n=37) and cardiovascular diseases (31.0%, n=27).

In the hypertension treatment, diet, physical activities and life-style changes are recommended beside medication. Also, several alternative herbal remedies are very common to control hypertension. There are a lot of studies that show some other alternative applications apart from medication are very common in Turkey just like the other parts of the world (8, 9, 10). Biçen et al. stated in their study that 53% of the hypertension patients utilize herbal remedies (11). In another study, it was determined that 86.92% hypertension patients use some natural methods to regulate blood pressure (12). And in our study, it was determined that 29.9% (n=26) of the patients had been utilizing supportive treatment besides medication for an average of 7.7 ± 6.2 years, and 24.1% (n=21) had been utilizing only herbal remedies.

Toprak and Demir stated in their study that 27.8% of the hypertension patients had been eating yoghurt with garlic, 25% had been drinking lemon and grapefruit juice, and 2.8% had been drinking thyme juice (7). Efe et al. stated in their study that lemon, garlic, thorn, cherry stalk, olive, parsley, cabbage, thyme, nettle, quince leaf and daisy are among the herbal remedies that hypertension patients utilize to decrease blood pressure (13). Biçen et al. stated that patients mostly use lemon, garlic, nettle, mistletoe, sage, and thyme

(11). In another study, it was stated that 44.27% of the patients eat garlic to decrease blood pressure, 42.4% drink lemon juice, and 23.89% boil olive tree leaves and drink their water (12). In our study, it is determined that patients mostly prefer lemon (18.4%), kefir (11.5%) and yoghurt (10.3%).

In a study about garlic, which is one of the most common herbal remedies that hypertension patients prefer to control blood pressure, enough evidence cannot be found and, therefore, garlic is not recommended as an anti-hypertensive treatment alternative on its own (14). Brumley (8), Kleinman (15) and Rahman (16) stated in their studies that garlic is used to treat hypertension. Khosh and Khosh (5) stated that olive tree leaves are used for the same purpose. Although there is not exact evidence that garlic decreases blood pressure, it was pointed out that garlic can be used as an adjuvant treatment (17). The effect of lemon and lemon juice on decreasing blood pressure is unclear and related studies are insufficient (18). The reason why these herbals are frequently preferred may be that they are widely believed to decrease tension and that they are cheap and available in every kitchen (15, 19, 20). Also, the 'salt limitation' in the diet of hypertension patients may cause an increase in the consumption of these herbals which are flavor enhancer (12).



The wide use of these herbals and patients' preferences for these supportive treatments show that they cannot get true information. Getting information from different false sources obstructs disease management and true treatment (13).

Balcı Akpınar and Tezel stated that 69.03% of the patients get information about these alternative applications from their neighbours, 16.81% get from their families, 8.85% get from the media, 5.31% get from some medical officials (12). Generally, in different studies, patients are stated to get information about these supportive treatment methods from their social environments (friends and relatives) and from the media (13, 21), from nurses and doctors (7). Biçen et al. stated that 83% of the patients that use herbal remedies started to use them without doing any research about the product (11). This study, just like some other studies, shows that patients prefer herbal remedies by getting information only from their social environments and by using their own knowledge.

45.3% of the hypertension patients said that the supportive treatment they use to control their blood pressure is effective. 44.2% stated that they do not continue medical treatment while they use these supportive treatments (13). Biçen et al., similar to these findings, expressed that patients believe that the traditional methods they use are effective to control blood pressure (11). In another study, it

was stated that 41.2% of the patients do not continue/start pharmacologic treatment while using supportive treatment (22). In our study, it was determined that 25.3% of the patients had been using herbals every day, and 62.1% of them pointed out that herbal treatment is not an effective method and 56.3% declared that they do not recommend it to other people. Moreover, when the patients were asked why they prefer herbal remedies, the most frequent answer was 'To control the disease' (24.1%), and the second most frequent answer was 'To assist the medication' (21.8%).

When the patients were asked what methods they use to control hypertension other than herbals, 60.9% answered 'salt limitation' and 26.4% said they had been 'doing exercise'. When they have a high blood pressure at home, 28.7% of the patients stated that they drink lemon juice as a first attempt, and 26.4% said that they relax. When they were asked what they do when they have hypertension in spite of medication, 42.5% said that they see the doctor, and 34.5% said that they eat garlic.

Patients should be warned that using supportive treatments may have different complications within different herbals or between herbals and medication; therefore, they may have some negative effects on treatment. For example, because the anticoagulant effect of garlic, it may increase bleeding (23, 24, 25). For this reason, using supportive treatments



without informing medical officials may cause harm more than providing benefit. Furthermore, it is very important to recommend patients supportive diets and to get them adopt healthy eating habits in order to support their general health and their medication. Patients' not getting information from appropriate sources and their not informing medical officials about the supportive treatments they use obstructs treatment and increases complications (23). For that reason, regular training and counseling services should be available for hypertension patients in order to enable appropriate use of supportive treatments.

Conclusion

According to the study; hypertensive patients use herbal alternative methods beside medicine and diet treatments. Patients should be informed about right herbal use. Treatment of hypertension by alternative methods must be performed with the principles of evidence-based medicine. All medical staff should pay attention on this subject and be aware of wrong herbal use.

References

1. Mancia G, Fagard R, Narkiewicz K, Redo' n J, Zanchetti A, Bohm M et al. The Task Force For the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). 2013 ESH/ESC Guidelines For the Management of Arterial Hypertension. *Journal of Hypertension*, 2013; 13 (7).
2. Altun B, Arıcı M, Nergizoğlu G, Derici U, Karatan O, Turgan C, et al. Prevalence, Awareness, Treatment and Control of Hypertension in Turkey (The Patent Study) in 2003. *Journal of Hypertension*. 2005; 23(10):1817-23.
3. Badır A. Hipertansiyon, İçinde: Dahili ve Cerrahi Hastalıklarda Bakım. (1. Baskı), Karadovan A, Eti Aslan F. (Ed.), Adana, Nobel Tıp Kitapevleri; 2010.s.609-12.
4. Lawes CM, Vander Hoorn S, Rodgers A. International Society of Hypertension. Global burden of blood-pressure-related disease, 2001. *Lancet*. 2008; 371(9623): 1513-8.
5. Khosh F, Khosh M, Natural Approach to Hypertension. *Alternative Medicine Review* 2001; 6 (6): 590-600.
6. Yalçın M, Şahin M. Birinci Basamakta Esansiyel Hipertansiyona Yaklaşım. *Trakya Üniversitesi Tıp Fakültesi Dergisi*. 2002; 19(3-4):162-70.
7. Toprak D, Demir S. Treatment Choices of Hypertensive Patients In Turkey. *Behav Med*. 2007; 33 (1): 5-10.
8. Brumley C. Herbs and perioperative patient. *Association of Operating Room Nurses*. Denver 2000; 72(5): 785-804.
9. Hudson, K, Brady E, Ropp D (2001).What you and your patients should know about herbal medicine *Journal of American Academy of Physician Assistans* . 14 (11) p27,6p.



10. Vessey JA , Rechkemmer A(2001). Natural approaches to chilmen's health herbals and complementary and alternative medicine. *PediatTic nursing* 27(1) p61 7p. 3 charts.
11. Biçen C, Elver Ö, Erdem E, Kaya Ç, Karataş A, Dilek M. Ve ark. Hipertansiyon Hastalarında Bitkisel Ürün Kullanımı. *Deneysel ve Klinik Tıp Dergisi*. 2012; 29(2):109-12.
12. Balcı Akpınar R, Tezel A. Kan Basıncını Düşürmek İçin Kullanılan Doğal Yöntemler. *Atatürk Üniv. Hemşirelik Yüksekokulu Dergisi*, 2003; 6 (2): 34-39.
13. Efe D, Kılıç Akça N, Kiper S, Aydın G, Gümüş K. Hipertansiyonu olan bireylerin kan basıncını düşürmeye yönelik kullandıkları destekleyici yöntemler. *Spatula DD* 2012; 2(4): 207-212
14. Edwards QT, Colquist S, Maradiegue A. What's Cooking With Garlic: Is This Complementary and Alternative Medicine For Hypertension? *J Am Acad Nurse Pract*. 2005; 17(9):381-5.
15. Kleinman RE. Complementary feeding and later health. *Pediatrics* 2000; 106(5): 1287-1288.
16. Rahman K. Historical perspective on garlic and cardiovascular disease. *The Journal of Nutrition;Bethesda*. 2001; 131 (3s): 977-979.
17. Ried K, Frank OR and Stocks NP. Aged garlic extract reduces blood pressure in hypertensives: a dose–response trial. *European Journal of Clinical Nutrition* 2013; 67: 64–70
18. Adibelli Z, Dilek M, Akpolat T. Lemon Juice As an Alternative Therapy in Hypertension in Turkey. *International Journal of Cardiology*. 2009; 135(2): 58-9.
19. Demirhan Erdemir A, Şayhgil Elçioğlu Ö. (1999) Sarımsak ve Kyolic. *Nobel Tıp Kitabevleri*.
20. Turkoski BB. Common herhalı. *Temediego Orthopaedic Nursing* 2000; 19(1):83-87.
21. Steurer-Stey C, Russi E. Complementary and Alternative Medicine In Asthma-Do They Work? *Swiss Med Wkly*. 2002; 132(25-26):338-44.
22. Gözüm S, Ünsal A. Use of Herbal Therapies By Older, Community-Dwelling Women. *Journal of Advanced Nursing*. 2004; 46(2):171-8.
23. Kara B, Uzun S, Yokuşoğlu M, Uzun M. Hipertansiyon Hastalarında İlaç Bilgisinin Kan Basıncını Düşürmek İçin Uygulanan Yöntemlere Etkisi. *TAF Prev Med Bull*. 2009; 8(3):231-8.
24. Ackermann RT, Mulrow CD, Ramirez G, Gardner CD, Morbidoni L, Lawrence VA. Garlic Shows Promise For İmproving Some Cardiovascular Risk Factors. *Arch Intern Med*. 2001; 161(6):813-24.
25. Ayaz E, Alpsoy HC. Sarımsak (Allium Sativum) ve Geleneksel Tedavide Kullanımı. *Türkiye Parazitoloji Dergisi*. 2007; 31(2):145-9.