

The use of complementary and alternative medicine among hypertensive patients

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ABSTRACT

Introduction: Complementary and Alternative Medicine (CAM) is widely used method by patients especially with chronic diseases. Although safety and sufficiency of these practices are questionable their use among hypertensive patients is increasing. There is a lack of research studies related to variety of CAM use among hypertensive patients and factors may influence it.

Aim: The aim of this descriptive study was to determine the CAM use among patients diagnosed with hypertension.

Method and Material: The descriptive design was used for this study in one university hospital located in western Turkey. Data were collected from patients by using a questionnaire with diagnoses of hypertension. There were 127 patients eligible this study. Demographic variables, perceptions related to hypertension and CAM practices of patients were investigated.

Results: The mean age of the patients was 59.33±11.97 years. Most of the patients (78.7%) reported using CAM practices. Nutritional, cognitive and behavioral approaches, vitamins and herbal medications were mostly preferred methods for controlling the blood pressure.

Conclusions: Nutritional arrangements were commonly practiced by hypertensive patients. Although hypertensive patients are on medical treatment currently most of them consider using CAM to lower their blood pressure. Adherence to medical treatment among hypertensive patients is also questionable.

Key words: Hypertensive patients, complementary medicine, alternative medicine.

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INTRODUCTION

Noncontagious diseases are characterized as a large epidemic all around the world were shown as a major cause of deaths that occur each year. Hypertension is presented as global risk factor for mortality followed by smoking, hyperglycemia and physical inactivity.¹ It is estimated that by the year 2025 the number of adults with hypertension will reach to 1.56 billion and total cases will

rise approximately 60% all round the world.² Prevalence of hypertension shows some differences around the world¹ and it has been reported that people who live in underdeveloped countries have high blood pressure values compared to developed countries. Prevalence of hypertension determined as high as 46% for African people while this percentage is determined as 35% in



America.³ According pending data hypertension prevalence is 30.3% in Turkey.⁴ Current data related to cardiovascular diseases, cancer, diabetes and chronic lung diseases are classified as common cause of deaths that occur before the age of sixty.⁵ The risk of death due to hypertension is high both in under-developed and developing countries compared to developed countries.⁶ Taking in to consideration the importance to control and prevent hypertension is a major step in preventing early deaths and complications due to it.⁷ Compliance with medical treatment is very important and life style changes also essential. It is also suggested that individualized treatment plans should be applied in order to reduce and prevent the risks associated with hypertension.⁸ Reducing blood pressure provides a significant decrease in cardiovascular diseases⁹ and occurrence of strokes¹⁰ according to research studies. Several studies show that patients with hypertension did not comply with the medical treatment and therefore both complications and cost of health expenditures increase significantly.^{3,4,6,9,11} In a study in which cardiovascular risk management was assessed it was determined checking the blood pressure on regular basis or following any specific diet offers are uncommon.¹² Another study represents that patients with high-blood pressure tend to skip a few doses of their medications in a week.¹³ Besides

noncompliance with medical treatment there are some other practices such as Complementary and Alternative Medicine (CAM) patients use in order to combat the effects of hypertension. CAM practices are constantly changing methods that are not considered as a part of medical treatment which also carries a high risk for interaction with current medication. CAM mostly preferred method particularly by patients with chronic diseases either being used along with or without medical treatment. It is well known that CAM practices are very common around the world yet safety and efficiency of them is also questionable. In one systematic review, prevalence of several different CAM practices was found as ranging from 5% to 74.8 %.¹⁴ Although there are very few studies related to CAM use among hypertensive patients in Turkey, it was observed that eating yogurt mixed with garlic, drinking lemon and grapefruit juice, eating garlic or taking tablets with garlic extract¹⁵ and use of herbal therapy⁷ are very common. The aim of this descriptive study is to determine the patients' perceptions related to causes of hypertension and the use of CAM among patients.

METHODS

Design and Sample

Design of this study is a descriptive study. Patients who referred to cardiology outpatient clinic in one university hospital

located in western region of Turkey were included. Data collection procedure took 3 months (from 1 August to 30 October 2014). There were 180 patients eligible for this study. However 127 patients volunteered to participate and response rate was calculated as 70.5%. For the participants who were illiterate the data collection form is filled out by researchers.

The inclusion criteria for participating patients for this study were;

- Individuals with no hearing disorders
- Able to communicate
- Able to speak native language
- Patients who are 18 years and older
- Patients who have diagnosed with hypertension and under medical treatment for hypertension,
- Volunteer to participate in to this study

Questionnaire development data collection procedure:

The participants were informed about this study both verbally and in written, assurance were given about their confidentiality. A data collection form used for this study is designed by researchers according to related literature on this field which included demographic variables related to patients and their CAM practices (37 questions). The questions included;

- Demographic variables related to patients (age, gender, marital status..... etc)
- Patients' characteristics related to hypertension were questioned by open ended

and yes/ no questions (duration of the disease, patients' perceptions related to hypertension CAM practices among patients..... etc.)

-Stress levels and strain caused by hypertension was measured by using 0-10 Visual Analogue Scale

After developing the questionnaire 3 faculty members in nursing, 4 clinical nurses were asked to evaluate the appropriateness of the questions included for this study. After receiving feedbacks from the experts the final form of the questionnaire was created. Internal consistency of the questionnaire's Cronbach alfa was calculated as $\alpha = 89$.

Data analysis: SPSS 20.0 program was used for statistical analysis. Demographic variables were given in numbers, percentages and by means. Pearson chi-square, Yates chi-square, Fisher chi-square and Mann-Whitney U tests were used to analyze the data.

Ethical Considerations: The written permission was taken from university Ethical Board to conduct this study.

RESULTS

The mean age of the patients was calculated as 59.33 ± 11.97 and 67.7 % of them were females. Forty one percent point seven (41.7%) of patients were elementary school graduates and most of them reported their economic level as fair. Most of them (72.4%) reported having chronic disease in the family



such as hypertension, diabetes, arterial disease that may link to hypertension were also questioned. Demographic variables related to patients were presented in table 1.

Duration of the disease was 10.37 ± 8.17 years; mean systolic blood pressure was 134.02 ± 19.37 mm Hg. More than half of the patients (63.8%) reported that stress triggered the onset of their disease. Table 2 displays patients' characteristics related to hypertension.

In this study most of the patients (78.7%) reported using CAM practices related to nutrition followed by cognitive and behavioral approaches (55.1%). Only 8.7% of them were using vitamins and herbal medications. Seventy nine point five (79.5%) of patients reported using CAM besides their medical treatment. Duration CAM use among patients was 7.86 ± 5.57 (Range 1-30) years. Most of the patients (81.9%) reported not informing their physician about CAM use and 71.4% of them were continuing to use it. More than half of the participants (63%) believe that the use of CAM is an effective method in maintaining their blood pressures in normal range. Only 18.1% of the patients reported their usage of CAM to their physicians and 72.4% of them were continuing to use CAM. Lemon juice (83%), garlic (35%), yogurt (27%), herbal tea (8%), cognitive approaches (55.1%), herbal medications (18.2%) are some of the CAM methods used by patients.

Distribution of CAM use among hypertensive patients were given in table 3. Perceptions of patients related to effectiveness of CAM on controlling blood pressure, duration of medical therapy for controlling hypertension influenced CAM use by patients ($p < 0.05$). Most of the patients reported not measuring their blood pressures on regular basis. Some of them reported checking their blood pressure whenever they feel bad (41.7%) or whenever they remember to do so (21.3%). 83.5% of the patients visit their physician on regular basis, only 37% of them reported following diet orders. Although they have prescriptions for medication to control their blood pressure 78% of them reported skipping their medications. Close to half of our study population (45.7 %) reported referring to emergency department because of hypertensive crisis previously. Distribution of CAM practices among hypertensive patient were presented in table 3 and the influence of some variables on CAM use were presented in table 4.

DISCUSSION

It has been known that despite of scientific research patients with hypertension continue to use CAM either combined with or without medical treatment.^{7,16-18} Our study represents that CAM use among hypertensive patients is fairly high (79%). Although this result is similar to results of some other studies^{7,19,20};

Kretchy et al. (2012) revealed the CAM use among hypertensive patients as low as 19.5%.¹⁶ According to previous research conducted in Turkey especially the herbal treatments such as lemon juice and garlic are the mostly preferred methods to lower the blood pressure^{7,19} which is also the case in our study. Our study also determined that cognitive approaches are secondly preferred method followed by vitamins or herbal medications. It has been shown that some complementary health approaches can help in reducing blood pressure levels. Mind and body practices, some certain dietary supplements such as cocoa, dark chocolate, coenzyme Q10, garlic and fish oil may helpful in patients receiving hypertension treatment.²¹ Although current evidence is very few there is encouraging evidence that practicing yoga lowers the blood pressure as well.²² Since use of CAM is becoming popular practice all around the world there is no strong evidence to support this data and yet it is conflicting. Using the herbal products solely not considered as harmful however unconscious use of different herbs has a potential to cause several complications. Keeping in mind that natural products do not necessarily mean safe thus they may create toxic effects at high doses, interactions with medications also could be very dangerous for patients' health.²¹ According to Edwards et al. (2005) there is evidence that garlic do

interfere with some medications such as anticoagulants. Studies represent that use of CAM are very popular among hypertensive patients in obtaining the desired effects from it.^{20,23,24} Although most of our study population reported using some type of CAM plenty of them (81.9%) reported not informing their primary physician about it. Not volunteering to disclose the information regarding the use of CAM is a common practice among patients.^{20,23,25} According to Kretchy et al. (2012) fear and lack of inquiry are the main reasons for not informing the health care provider. Although we did not question the reason for not disclosing the CAM use with physician in our study; there is a high possibility that patients do not have any knowledge related to negative effects of these practices or fear of negative feedback may come from physicians. Effective management of the disease and life style changes are quite important interventions in preventing complications in chronic diseases. Self-awareness of people related to their disease is detected as 54.7% while the usage of medication due to it is 47.5%.⁴ In this study although results were statistically insignificant patients who skip their prescribed medications mostly rely on CAM practices in this study. Our study also reveals that as duration of medication therapy increases the use CAM increase among hypertensive patients which is statistically



significant. Referring to ER because of hypertensive crisis, changes in blood pressure values in despite of medication use and skipping medication doses are also prevalent. According to these findings self-management of the disease by patients seems ineffective and their adherence to their current disease is low.

Stress in daily life, strain caused by hypertension, duration of the disease, BMI, chronic diseases in the family, perceptions related to cause of hypertension did not have any influence on CAM use in our study. It has been detected that patients who describe their life styles as stressful and reported strain related to hypertension mostly relay on CAM. Only 30.7% of the hypertensive patients reported checking their blood pressures on regular basis which is quite low than the results found in Uzun et al.'s (2009) study where they assessed some adherence of hypertensive patients to medical treatment and life style changes. Patients who are not checking the blood pressure on regular schedule mostly prefer using CAM according to results of our study which is statistically significant.¹⁷ This result also concludes that our study population believes that CAM use is an effective approach in lowering their blood pressure which is also supported by other studies.^{7,16,20,23}

Limitations of the study

There were some limitations in this study. The study was conducted in one university hospital with patients being diagnosed with hypertension previously. In addition to this there is very strict research done in Turkey on CAM practices among hypertensive patients which limited the Discussion part of our study. Although CAM practices are very common around the world they also have been influenced by cultural diversity of community. Consequently it is difficult to reach the cause effect relationship from current study.

CONCLUSIONS

We found that CAM practices among hypertensive patients are prevalent. However disclosing the information with health care provider related to CAM is very low and they continue to use CAM besides medical treatment. Taking in to consideration that CAM practices especially the ones related to nutrition/ vitamins and some extracts could be dangerous to patients' health. Health care providers should be questioning the use of CAM among hypertensive patients. Also patient education should be considered as an important fact in order to teach them approaching to these methods with caution.

Conflicts of interests: The authors do not have any conflicts of interests to declare for this study.

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REFERENCES

1. Turkish Health Ministry, Healthy Nutrition and Active Life Program in Turkey (2013-2017) 2013;12-24. available from [http:// www.tkd.org.tr](http://www.tkd.org.tr), June 2015.
2. Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: analysis of worldwide data. *Lancet* 2005; 365(9455), 217–23.
3. Sengul S, Erdem Y, Batuman V, Erturk S. Hypertension and chronic kidney disease in Turkey. *Kidney Int Suppl* 2013; 3(4), 308–311
4. Türk Hipertansiyon ve Böbrek Hastalıkları Derneği. Turkish Hypertension Prevalence Study, 2012. Available from: <http://www.turkhipertansiyon.org>.
5. WHO. Global status report on noncommunicable diseases 2010.
6. World Health Organisation. Global health risks:mortality and burden of disease attributable to selected major risks. 2009
7. Bahar Z, Kızılcı S, Beşer A, et al. Herbal therapies used by hypertensive patients in Turkey. *Afr. J. Tradit. Complement. Altern. Med.* 2013; 10(2), 292–8.
8. Güven MAN fiendur; GS. Hypertension treatment with upto date guidelines. *Hacettepe Medical Journal.*2011; 42:53–64
9. Thomas G, Shishehbor M, Brill D, Nally J V. New hypertension guidelines: one size fits most? *Cleve. Clin. J. Med.* 2014;. 81(3), 178–88.
10. Lindholm LH, Ibsen H, Dahlöf B, et al. Cardiovascular morbidity and mortality in patients with diabetes in the Losartan Intervention For Endpoint reduction in hypertension study (LIFE): a randomised trial against atenolol. *Lancet*,2002; 359(9311), 1004–10.
11. James PA, Oparil S, Carter BL, et al. Evidence-based guideline for the management of high blood pressure in adults: report from the panel members appointed to the Eighth Joint National Committee (JNC 8). *JAMA* 2014; 311(5), 507–20.
12. Kozan Ö. behalf of the RSG. An observational study to evaluate the clinical practice of cardiovascular risk management among hypertensive patients in Turkey. *Arch Turk Soc Cardiol* 2011; 39(6):445–455.
13. Aypak C, Özde Ö, Dicle M, Yıkılkan H, Tekin H, Süleyman G. Evaluation of Blood Pressure Control Levels and Treatment Compliances of Hypertensive Patients. *Cukurova Med. J* 2013; 38(2), 224–232.



14. Frass M, Strassl RP, Friehs H, Müllner M, Kundi M, Kaye AD. Use and acceptance of complementary and alternative medicine among the general population and medical personnel: a systematic review. *Ochsner J* 2012; 12(1), 45–56.
15. Capraz M, Dilek M, Akpolat T. Garlic, hypertension and patient education. *Int. J. Cardiol* 2007 ; 121(1), 130–1.
16. Kretchy IA, Owusu-Daaku F, Danquah S. Patterns and determinants of the use of complementary and alternative medicine: a cross-sectional study of hypertensive patients in Ghana. *BMC Complement. Altern. Med* 2014; 14, 44 .
17. Uzun S, Kara B, Yokuşoğlu M, Arslan F, Yilmaz MB, Karaeren H. The assessment of adherence of hypertensive individuals to treatment and lifestyle change recommendations. *Anadolu Kardiyol. Derg* 2009; 9(2), 102–109.
18. Sibbritt D, Davidson P, DiGiacomo M, Newton P P, Adams J. Use of Complementary and Alternative Medicine in Women with Heart Disease, Hypertension and Diabetes (From the Australian Longitudinal Study on Women’s Health). *Am. J. Cardiol* 2015; 115(12), 1691–5.
19. Efe D, Akça NK, Kiper S, Aydın G, Gümüş K. Supportive methods used by the individuals with hypertension to decrease blood pressure. *Spat. DD - Peer Rev. J. Complement. Med. Drug Discov* 2012; 2(4), 207–212.
20. Nuwaha F, Musinguzi G. Use of alternative medicine for hypertension in Buikwe and Mukono districts of Uganda: a cross sectional study. *BMC Complement. Altern. Med* 2013; 13(1), 301.
21. National Center for Complementary and Integrative Health. available from <http://nccih.nih.gov/health/hypertension> May, 2015
22. Wang J, Xiong X, Liu W. Yoga for essential hypertension: a systematic review. *PLoS One* 2013; 8(10)
23. Ali-Shtayeh MS, Jamous RM, Jamous RM, Salameh NMY. Complementary and alternative medicine (CAM) use among hypertensive patients in Palestine. *Complement. Ther. Clin. Pract* 2013; 19(4), 256–63
24. Hu H, Li G, Duan J, Arao T. Prevalence, purposes, and perceived effectiveness of complementary and alternative medicine use in a hypertension population: A questionnaire survey. *ISRN Public Health* 2013; 1–7.
25. Biçen C, Elver Ö, Erdem E, et al. The use of herbal products by hypertensive patients]. *Exp. Clin. Med* 2012; 29(2), 109–112.

ANNEX

Table 1. Socio demographic variables of hypertensive patients (n=127)

Age	59.33 ± 11.97 (Range:19-82)	
BMI (Body mass index)	30.45 ± 5.52 (Range: 20.07-47.56)	
Waist to height ratio	0.92 ± 0.09 (Range: 0.66-1.39)	
	n	%
Gender		
Male	41	32.3
Female	86	67.7
Marital status		
Married	103	81.1
Single	6	4.7
Divorced	18	14.2
Education level		
Illiterate	13	10.2
Literate	9	7.1
Elementary school graduate	53	41.7
Middle school	28	22.0
University	24	18.9
Economic status		
Good	10	7.9
Fair	107	84.3
Bad	10	7.9
Profession		
Employed	27	21.3
Retired	47	37.0
House wife	53	41.7
History of chronic disease in the family		
Yes	92	72.4
No	35	27.6
Chronic Disease		
Cardiac disease	48	52.2
Venous/ arterial disease	12	13.0
Diabetes Mellitus	30	32.6
Renal Disease	10	10.9
Others	15	16.3
Habits		
Cigarette smoking	22	17.3
Consuming alcohol	3	2.4
Drinking tea	110	86.6
Drinking coffee	8	22.0



Table 2. Distribution of patients' characteristics related to hypertension disease (n=127)

Patient characteristics	Mean ± SD (Range)	
Stress level in daily life	5.09±2.32 (Range 1-10)	
Strain caused by hypertension	6.21±3.14 (Range 1-10)	
Duration of disease (years) (hypertension)	10.37±8.140 (Range: 1-45)	
Duration of medication therapy for hypertension (years)	8.78±7.43 (Range:1-40)	
Mean Systolic Blood Pressure (mmHg)	134.02±19.37 (Range:90-240)	
Mean Diastolic Blood Pressure (mmHg)	82.17±15.57 (Range: 50-150)	
	n	%
Perceptions of patients' related to cause of hypertension		
Genetics	19	15.0
Stress	81	63.8
Personality	6	4.7
Nutrition	9	7.1
Have no idea	7	5.5
Others	5	3.9
Changes on blood pressure despite medication use		
Yes		
No	59	46.5
	68	53.5

Table 3. Distribution of CAM practices among hypertensive patients (n=127)

	n	%
Use of CAM (n=127)		
Yes	115	90.6
No	12	9.4
Using a special diet and paying attention on nutritional habits (n=127)		
Yes	100	78.7
No	27	21.3
CAM practices related to nutrition (n=100)		
Herbal tea	8	8.0
Garlic	35	35.0
Echinacea	3	3.0
Yogurt	27	27.0
Lemon Juice	83	83.0
Oregano Juice	2	2.0
Cinnamon	2	2.0
Bitter chocolate	3	3
Other nutritional practices	6	6
Performing cognitive approaches (n=107)		
Yes	70	55.1
No	57	44.9
Cognitive CAM practices (n=70)		
Breathing exercises (taking slow breaths)	2	2.9
Wrapping forehead by using head scarf	5	7.1
Going somewhere where can be alone	16	22.9
Applying ice/ cold compression neck area	16	22.9
Taking a warm shower	5	7.1
Using aromatherapy(lavender oil, aloe vera, etc)	1	1.4
Prying	3	4.3
Listening to music	1	1.4
Exercising (relaxation exercises)	2	2.9
Massage	2	2.9
Benefit from support groups (friends etc.)	1	1.4
Other cognitive therapies	33	47.1
Vitamins/ herbal medications		
Yes	11	8.7
No	116	91.3
CAM practices related to vitamins/other herbal medications (n=11)		
Taking relaxant medication which is herbal origin	2	18.2
Taking a nonprescription pain killer	6	54.5
Vitamin B12	1	9.1
Fish Oil/ Omega 3	1	9.1
Multivitamins	1	9.1



Table 4. The influence of some variables on CAM use of hypertension patients

Variables	Reliability
Chronic disease running in the family	** $\chi^2=3.021$, $p=0.082$
Cigarette smoking	*** $p=0.091$
Consuming alcohol	*** $p=0.259$
Drinking coffee	*** $p=0.207$
Drinking tea	*** $p=0.499$
Stress level in daily life	$U=47.500$, $Z=-1.686$, $p=0.092$
Strain caused by hypertension	$U=537.500$, $Z=-1.262$, $p=0.207$
Duration of disease (hypertension)	$U=539.000$, $Z=-1.250$, $p=0.211$
Duration of medication therapy for hypertension (years)	$U=769.00$, $Z=0.663$, $p=0.507$
Perceptions of patients related to effectiveness of CAM on controlling blood pressure	*** $p<0.05$
Measuring blood pressure on regular basis at home	* $\chi^2=17.789$, $p<0.05$
Skipping medication doses	*** $p=0.207$

*pearson ki square, **Yates ki square, ***Fisher ki square