



Assessment of Knowledge, Attitude, and Practice in the General Population Regarding Hypertension: A Cross-Sectional Study from Iran

Fariba Lookian¹, Elliyeh Ghadrđan², Maryam Mousavi^{3*}

¹Department of Clinical Pharmacy, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran.

²Department of Clinical Pharmacy, School of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran.

³Research Center for Rational Use of Drugs, Tehran University of Medical Sciences, Tehran, Iran.

Received: 2018-09-19, Revised: 2018-10-28, Accept: 2018-11-01, Published: 2018-12-01

ARTICLE INFO

Article type:

Original article

Keywords:

Hypertension;

Knowledge;

Attitude;

Practice

ABSTRACT

Background: Patients' knowledge, attitude, and practice (KAP) are essential factors for hypertension management. Therefore, the information that reflects the level of public awareness can affect health policies. The aim of this study was to assess the knowledge, attitude, and practice of the general population about hypertension.

Methods: In this pilot study, we totally include 198 adults with or without hypertension. Participants were randomly selected, and they filled a KAP questionnaire. The questionnaire consisted of 19 items in four sections demographic characteristics (5), knowledge (7), attitude (3) and practice (4).

Results: Most of the participants were younger than 30 years old. The gender distribution consisted of 52.6% males and 44.8% females. The severe headache and dizziness were the principal hypertension symptoms in participant perspectives. Most of the people had reported that salt intake and fatty foods may cause hypertension more than others. They considered low salt-fat diet and regular exercise were the main hypertension prevention. In the present study, participants believed that all the population can be at family history are the main causes. In the presence of hypertension symptoms, referring to the nephrologist, for initial evaluation was a priority for thirty percent of responders.

Conclusion: This study showed that the majority of the general population had good knowledge about hypertension. We found that attitude was satisfied, although the inappropriate practice was seen in participants.

J Pharm Care 2018; 6(3-4): 62-67.

► Please cite this paper as:

Lookian F, Ghadrđan E, Mousavi M. Assessment of Knowledge, Attitude, and Practice in the General Population Regarding Hypertension: A Cross-Sectional Study from Iran. J Pharm Care 2018; 6(3-4): 62-67.

Introduction

According to the last European society of cardiology guideline, the hypertension prevalence in adults is around 30-45%. The outbreak of hypertension increased progressively in advanced age. It is estimated that people with hypertension will reach close to 1.5 billion by 2025. The systolic blood pressure greater than 140 mmHg is

responsible for most of the mortality and morbidity due to ischemic heart disease, hemorrhagic stroke and ischemic stroke (1). In the United States, hypertension is the main cause of cardiovascular diseases deaths compared to other modifiable risk factors (2).

The prevalence of hypertension in Iran is remarkable and about 22% of the Iranian adults suffer from hypertension

*Corresponding Author: Dr Maryam Mousavi,

Address: Research Center for Rational Use of Drugs, 4th floor, No 92, Karimkhan Zand Ave., Haft Tīr Sq., Tehran, Iran. Tel/ Fax: +982188814157.

Email: kh.mousavi@gmail.com

and like advanced countries, its prevalence increases with age (3). In another research, the mean hypertension prevalence was reported 24% in the Iranian population with more than 20 years old and 5% among younger persons (4). Between 1976 and 1980, less than 25% of the American population were aware of cardiovascular consequences of hypertension, but by increasing the level of public awareness through public education, nowadays, more than 75% of Americans know about high blood pressure complications (5). The knowledge, attitude, and practice (KAP) survey may differ in content and perspective, but they can be used to obtain the essential information to form basic changes in existing structures and future plans of the health system. Information about knowledge and attitude of the general population could be profitable to achieve effective health care practice patterns which are needed for managing hypertension (6). In this study, we examine KAP about hypertension and associated risk factors among the general population with or without knowing hypertension in the main hospital of Mashhad city, Iran. Boskabadi et al., reported that the prevalence of hypertension was 20.9 among 704 participants in Mashhad (7), on the other hand before the start of our study, Parmar and colleagues published their study results about KAP on hypertension. They reported poor practice despite good knowledge among the study population. Therefore, regarding the high prevalence of hypertension and to investigate hypertension KAP status at the study site, we carried out the first KAP study toward hypertension among the general population in Mashhad city. The aim of this study was an assessment of basic knowledge, attitude, and practice about hypertension in the general population.

Methods

This cross-sectional pilot study was carried out on the adult population who referred to the pharmacy of Imam Reza hospital which is the main teaching hospital in Mashhad city. This study was conducted from November 2014 to June 2015. A total of 198 participants were included in this study. They were 18 years or older and able to read or understand the Persian language. All of the participants had consent for inclusion in this study. We used a multi-stage, random cluster sampling method. Participants were selected from individuals of urban and rural areas. Responders filled the questionnaire via a face to face interview. At first, the investigator introduced herself to the patients who had the inclusion criteria and then explained to them about the aims of the study. After obtaining the consent, they received the questioner.

We developed a questionnaire based on previous studies (8) to assess the knowledge, attitude, and practice of participants. Face validity of the questionnaire was assessed by three experts. The questionnaire consisted of 19 questions, including 5 questions about demographic information, 7 questions related to knowledge, 3 questions toward attitude

and 4 questions to assess the practice of participants. Demographic information included name, sex, education level, occupation and area of living. In part of knowledge questions, assessed the knowledge of participants toward manifestations, risk factors, complications, prevention and treatment of hypertension. Participants were asked about their main source of knowledge about hypertension.

In terms of attitude and practice, participants were asked questions on their opinion about the hypertension risk factors individual and social effects of hypertension. and the importance of hypertension treatment and follow up. Moreover, we asked some questions about the time of referral to the physicians and their expertise.

All data were analysed by Statistical Package for the Social Sciences (SPSS) version 23. We used descriptive statistics to explore the data. To report continuous variables, mean \pm SD was used. The categorical variables were reported as percentage.

Results

As shown in Table 1, the majority of participants had less than 30 years of age (51.5%) and the distribution of genders was 52.6 % males and 44.8% females. The educational levels of participants were 13.8% primary or less, 33% secondary-tertiary and 53.2% academic. Among responders, 56.2% lived in Mashhad uptown, and 23.2% of them reside in downtown. About 18% of responders came from suburban areas of Mashhad.

Most of the participants knew about the manifestations, causes, and complications of hypertension. Myocardial infarction and stroke were the most important complications of hypertension which the responders worried about them. According to participant's opinion, the severe headache (88%) and dizziness (85%) were the common symptoms of high blood pressure. Most of the people reported that salty (72.2%) and fatty foods (53.1%) may cause hypertension more than others. Also, they believed that lifestyle changes include decreased salt intake (76.3%) and regular exercise (63.4%) may play an important role in the prevention of hypertension. The participants reported that all population can be at risk of hypertension especially obese people are more likely to get hypertension than others. Participants knew television programs (69.1%) as the most important source of information about high blood pressure (Table 2).

Majority of participants believed that hypertension has a remarkable effect on the quality of life of the hypertensive patient and it is a burden on the health system. A healthy diet (68.6%), physical exercise (50.5%), chemical drugs (30.9) and herbal medicines (29.9%) were reported by responders as the essential treatments for hypertension. Fortunately, most of the responders refer to a physician for initial evaluation. However, most of them didn't have enough adherence to regular blood pressure measurement (Table 3 and Table 4).

Table.1 Demographic information of responders.

Variables		Frequency	Percentage
Age	<30	100	51.5
	31-40	33	17.0
	41-50	25	12.9
	51-60	25	12.9
	>60	10	5.2
Gender	Male	102	52.6
	Female	87	44.8
Education	Illiterate	3	1.5
	Primary	24	12.3
	Secondary	15	7.7
	High	49	25.3
	Academic	103	53.1
Occupation	Self-employed	52	26.8
	Student	27	13.9
	Employee	48	24.7
	Teacher	30	15.5
	Faculty	3	1.5
	Unemployed	6	3.1
	Housewife	25	12.9
	Retired	1	.5
Residency	Uptown	109	56.2
	Downtown	45	23.2
	Village	35	18.0

Table 2. Knowledge related questions

Questions	Answers	%
1- What are the complications of hypertension?	MI and cardiovascular disease	7.7
	Stroke	5.1
	MI and stroke	23.9
	Kidney disease	5.1
	Death	6.2
	Eye complication	0.5
	Disability	5
	I don't know	1
	None of them	3.1

Table 2. Continued.

Questions	Answers	%
2- What are the symptoms of hypertension?	Headache	45.5
	Dizziness	43.8
	Flushing	35.6
	Weakness	19.1
	Fatigue	9.3
	I don't know	14.9
3- What are the causes of hypertension?	Salty food	72.2
	Fatty food	53.1
	Smoking	26.8
	Alcohol	16
	Lack of physical exercise	33.5
	I don't know	2.1
4- What are the preventive methods of hypertension?	Unknown	6.2
	Regular exercise	63.4
	Low salty and fatty diet	76.3
	Stop smoking	30.4
	Regular monitoring test	30.9
5- Who is most at risk for high blood pressure?	I don't know	9.8
	Anybody	43.3
	Obese people	24.4
	People who do not exercise	13.2
	Smokers	3.5
	People with family history	10.1
	Elderly	7.1
	Stressful people	1.5
6- What are the treatment methods of hypertension?	I don't know	0.5
	Herbal medicines	29.9
	Chemical drugs	30.9
	Relaxation	5.2
	Regular exercise	50.5
	Healthy diet	68.6
	Smoking and alcohol cessation	23.7
7- Which references could provide enough information about hypertension?	I don't know	6.2
	Book and magazine	15.9
	Radio	14.9
	TV	69.1
	Health care team	30.0
	Friends and family	17
Teachers	13.9	

Table 3. Attitude related questions

Questions	Answers	%
1- What is the main cause of hypertension?	Family history	12.3
	Salt intake	44
	Lack of exercise	32.9
	Obesity	1.1
	Aging	1.1
	Stress	8.6
2- Do you think hypertension could be dangerous for patients?	Yes	86.6
	No	9.3
3- Do you think hypertension would be a burden for society?	Yes	67.5
	No	22.6

Table 4. Practice related questions

Questions	Answers	%
1- When should you go to the doctor for high blood pressure?	After I tried home remedies	11.3
	As soon as possible	69.6
	After 3-4 weeks	9.8
	I don't visit a physician	6.2
2- Where do you refer in order to hypertension treatment?	General practitioner	30.4
	Cardiologist	26.8
	Nephrologist	30.4
	Traditional medicine	4.6
	I don't visit a physician	4.1
3- Do you check your blood pressure regularly?	Yes	34
	No	62
4- Why don't you go to the Doctor?	I prefer lifestyle change	27.8
	I don't know where to go	4.1
	It is expensive	25.8
	Medications don't affect	9.3
	I am too busy	6.2

Discussion

Although hypertension has been known as a silent killer disease and its complications can cause mortality and morbidity, it is preventable. The impact of KAP of the general population on hypertension prevention and controlling is considerable.

The findings of this study demonstrated that the majority of the general population had good knowledge and acceptable attitude regarding hypertension, but they showed poor practice in some aspects.

The results of this study were comparable with the study

of Sadeq et al., from Iraq. They showed 60% knowledge, 80% attitude and 24% practice among hypertensive patients (9).

Similar to this study, in the research of Parmar et al., the hypertension KAP in the general population were assessed. Same as our study, the responders have shown good knowledge about the effects of salt intake, obesity, smoking and physical inactivity on hypertension development. Also, there was low compliance with blood pressure monitoring. It could be because of unawareness and inattention to its importance (10).

In our study, most of the responders were below the age of 30 years and only 5.2% were older than 60 years. Considering we conducted our study among the general population who referred to the main teaching pharmacy of Mashhad city, it could be due to a large number of young clients who had come to the pharmacy to receive services for themselves or their family members.

Our participants reported that TV and then health professionals have been their basic references of knowledge about hypertension. In recent years, production of health-based TV program has increased, in addition, its availability and affordability turned TV to the main source of information. Nevertheless, health professional consultation couldn't be replaced with mass media. Therefore, the health care system should design educational programs to raise public awareness. Unfortunately, 25.8% of participants reported that high cost and unavailability were the main reasons not to visit physicians. Since more than 40% of our participants resided in Mashhad downtown and suburban areas, these problems could be due to less development of health facilities in these areas.

Eghbali-Babadi et al., examined a training program based on the Expanded Chronic Care Model (ECCM), in their study the KAP scores were higher in the intervention group (they were educated based on ECCM) than the control group, it showed the importance of educational programs in KAP enhancement(11).

This study showed that the knowledge about hypertension risk factors such as healthy diet, physical activity, and smoking cessation was appropriate. Alcohol consumption just got 16% due to religious belief. Similar to our results, Shibiru Tesema study was conducted on 130 hypertensive patients in Ethiopia, it showed that responders were aware of the adverse effects of salt, smoking, and alcohol on blood pressure (12).

Rashidi et al., in the KAP study regarding hypertension in Tabriz city of Iran, reported good knowledge about hypertension risk factors, also 60% participants were aware of its complications While the responders who monitored their blood pressure were low (13).

This study showed that responders had good knowledge about hypertension. We found that attitude in participants was satisfied, although the inappropriate practice was seen among responders. Educational programs are needed for the general population to obtain information and appropriate self-manage. On the other hand, the health system can use a reliable source of information such

as KAP studies to design comprehensive educational programs.

References

1. Emrich IE, Böhm M, Mahfoud F. The 2018 ESC/ESH Guidelines for the management of arterial hypertension. *Eur Heart J* 2019;40(23):1830-1831.
2. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* 2018;138(17):e426-e483.
3. Mirzaei M, Moayedallaie S, Jabbari L, Mohammadi M. Prevalence of Hypertension in Iran 1980-2012: A Systematic Review. *J Tehran Heart Cent.* 2016;11(4):159-167.
4. Mohsenzadeh Y, Motedayen M, Hemmati F, Sayehmiri K, Sarokhani M T, Sarokhani D. Investigating the prevalence rate of hypertension in Iranian men and women: A study of systematic review and meta-analysis. *Journal of Basic Research in Medical Sciences* 2017; 4(1): 53-62.
5. Viera AJ, Cohen LW, Mitchell CM, Sloane PD. High blood pressure knowledge among primary care patients with known hypertension: a North Carolina Family Medicine Research Network (NC-FM-RN) study. *J Am Board Fam Med* 2008;21(4):300-8.
6. Jiang H, Zhang S, Ding Y, et al. Development and validation of college students' tuberculosis knowledge, attitudes and practices questionnaire (CS-TBKAPQ). *BMC Public Health.* 2017;17(1):949.
7. Boskabadi HM, Emadzadeh A, Hasanzadeh A, et al. Study of the level of blood pressure in subjects older than eighteen years in Mashhad. *Physiol Pharmacol.* 2005; 9(2):195-202.
8. Kaliyaperumal K. Guideline for conducting a knowledge, attitude and practice (KAP) study. *AECS Illumination* 2004;4(1): 7-9.
9. Sadeq R, Lafta RK. Knowledge, attitude and practice about hypertension in hypertensive patients attending hospitals in Baghdad, Iraq. *South East Asia Journal of Public Health* 2017;7(1):29-34.
10. Study of knowledge, attitude and practice of general population of Gandhinagar towards hypertension. *BMC Genomics.* 2016;17 (Suppl 6):487.
11. Eghbali-Babadi M, Feizi A, Khosravi A, Sarrafzadegan N. The Effect of Training on Knowledge, Attitude, and Practice in Patients with Hypertension; The Application of the Expanded Chronic Care Model: A Clinical Trial Study, *Iran Red Crescent Med J* 2018 ; 20(5):e61693
12. Tesema S, Disasa B, Kebamo S, Kadi E. Knowledge, Attitude and Practice Regarding Lifestyle Modification of Hypertensive Patients at Jimma University Specialized Hospital, Ethiopia. *Primary Health Care* 2016; 6:218.
13. Rashidi Y, Manafloouyan H, Pourmaghi Azar F, Nikniaz Z, Nikniaz L, Ghaffari S. Knowledge, attitude and practice of Iranian hypertensive patients regarding hypertension. *J Cardiovasc Thorac Res.* 2018. 10(1): p. 14-19.