



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

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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.

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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

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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 |
| | Unknown | 6.2 |
| 4- What are the preventive methods of hypertension? | Regular exercise | 63.4 |
| | Low salty and fatty diet | 76.3 |
| | Stop smoking | 30.4 |
| | Regular monitoring test | 30.9 |
| | I don't know | 9.8 |
| 5- Who is most at risk for high blood pressure? | 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 |
| | I don't know | 0.5 |
| 6- What are the treatment methods of hypertension? | 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 |
| | I don't know | 6.2 |
| 7- Which references could provide enough information about hypertension? | 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.

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