Evaluation of knowledge, attitude and practice of patients with hypertension referred to Cardiac Research Center and Aliabad Hospital of Kabul Medical University

Roqia Mohammadi

Kabul University of Medical Sciences, Faculty of Nursing
roqiamohammadi@yahoo.com

Abstract— **Introduction: Hypertension is one of the most important causes of heart failure. Awareness of the type of disease and preventive factors is effective in reducing the incidence of hypertension. The aim of this study was to evaluate the knowledge, attitude and practice of patients with hypertension**

Materials and Methods: This cross-sectional study was performed on patients with hypertension referred to the Cardiac Research Center and Aliabad hospital of Kabul Medical University during 2019. Eligible patients were selected according to inclusion criteria. Patients were evaluated for demographic characteristics and the relationship between factors affecting knowledge, attitude and practice. Data were analyzed using SPSS software.

Results: 414 patients with a mean age of 46.49±07.12 years were studied. Among the participants, 51.1% were male and 48.9% female. Furthermore, 76.4% were married, and 47.3% had a bachelor's degree. In addition, 50.8% had low income and 57.9% had a family history of hypertension. Overall, the studied patients had a poor level of knowledge with a mean score of 7.6 ±91, a poor attitude with a mean score of 4.38 ±1.19 and a moderate performance with a mean score of 37.41±7.3. The mean scores of knowledge and attitude in patients with high level of education and income were significantly higher than other patients.

Conclusion: Designing and implementing awareness-raising educational programs and paying attention to the fair presentation of education can play an effective role in promoting knowledge, attitude and practice of patients with hypertension; Therefore, by teaching healthy eating behaviors, patients' health and quality of life can be improved.

I. INTRODUCTION

Hypertension is one of the most important risk factors associated with cardiovascular disease mortality (1). Cardiovascular disease has the highest mortality rate in the world and the biggest problem of people, especially in middle age and above is hypertension (2, 3). In a one-year study, more than 9.4 million people died of high blood pressure worldwide. (4) Findings show that about 22% of the world's population suffers from high blood pressure. Hypertension is one of the most common cases of these stroke-related problems, which plays a significant role in the occurrence of heart attacks and strokes and causes heart failure in the long run (5). Reports indicate that the number of deaths due to hypertension is higher in poor and developing countries than in developed countries (6, 7). Hypertension is usually asymptomatic and the only way to diagnose the disease is to measure blood pressure periodically and regularly. So that by controlling blood pressure, the complications of the disease are reduced to a great extent (6, 8). Researchers are looking for ways to reduce the effects of high blood pressure and consider prevention as the best option.

Various factors such as smoking, overweight, lack of physical activity, poor and salty diet, stress and anxiety, old age and genetic factors are the most important causes of hypertension that patients' knowledge and awareness in this regard can be of great importance for control of the disease (10, 11). Awareness of people with hypertension and preventive factors is also effective in reducing the incidence of hypertension (12, 13), but reports indicated that people with hypertension do not have sufficient knowledge. They have been in moderate to poor levels of awareness, and this issue should be considered because of the importance of the effect of knowledge and awareness on hypertension (13-13). Regarding the importance of knowledge in the incidence and treatment of hypertensive patients, the present study was conducted to investigate the knowledge, attitude and practice of patients with hypertension.

II. MATERIALS AND METHODS

Study design

This cross-sectional study was performed on 436 patients with hypertension referred to the Cardiac Research Center of Kabul Medical University in 2019. Eligible patients were selected according to inclusion criteria. The sampling method was simple random method. The approval of the University Ethics Committee and the letter of introduction and necessary permits were obtained from the Faculty of Nursing.

III. INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria included patients who have recently been referred to the center. Patients aged between 15 and 75 years and willing to participate in the study. Exclusion criteria were: unwillingness to continue cooperation, failure

to answer all questions in the interview, and patients suffering from other underlying and chronic diseases.

IV. DATA COLLECTION

In this study, data collection tools included forms and checklists. A researcher-made knowledge and attitude questionnaire was used to collect information. . The researcher-made questionnaire was validated by 15 experts in the field of nutrition and epidemiology and their reliability was measured by the split-half method. In this way, the questions of the questionnaire were divided into two halves that matched in terms of content and difficulty, and then the two halves were scored independently. The research variables included age, education, status, employment, spouse, age, spouse occupation, spouse education, and number of children, as well as knowledge, attitude and practice of patients regarding blood pressure and related factors. The research variables were presented in a questionnaire.

According to the experts and the approval of the questionnaire in the questions related to knowledge, 2 positive scores were considered for each correct answer. Each incorrect answer was considered 1 negative score. By determining the standard deviation and calculating the average knowledge, individuals were divided into three categories: < 8 (poor), 8 to 26 (moderate) and >26 (good). Furthermore, 2 positive scores were considered for the attitude of each correct answer and zero negative score was considered for each incorrect answer. By determining the standard deviation and calculating the average attitude, patients were divided into three categories, < 5 (poor), 5 to 15 (average) and > 15 (good). The answer of the practice scores is also as follows: completely agree (5 scores), agree (4 scores), not sure (3 scores), disagree (2 scores) and completely disagree (1 score). By determining the standard deviation and calculating the mean of knowledge, individuals were divided into three categories: < 30 (weak), 30 to 60 (moderate) and > 60 (good).

V. DATA ANALYSIS

Quantitative data analysis was performed using SPSS software version 20. Mean and standard deviation were used for quantitative variables and frequency table was also used for qualitative variables. Descriptive statistics including the frequency and percentage of variables and related graphs were used. Analytical statistics such as Chi-square test and t-test were used to examine the statistical relationship between other variables.

VI. RESULTS

In this study, 414 patients were studied. The mean age of participants in the study was 46.49 ± 07.12 years. The age of patients varied between 28 and 75 years. The mean blood pressure of patients was 161/98 mm Hg. Among the participants, 51.1% were male and 48.9% female, 76.4% were married, and 47.3% had a bachelor's degree.

Moreover, 50.8% had low income and 57.9% had a family history of hypertension (TABLE I).

I. TABLE I
STUDY VARIABLES

Variable	Parameter	Mean	Max	Min
Age	Total	46/49± 7/12	75	29
blood pressure	Systolic	161/32± 13/57	206	134
	Diastolic	98/19± 8/92	119	88
		Frequency	Percent	
Gender	Male	211	51.1	
	Female	203	48.9	
Patients' jobs	Free / Housewife	301	73.5	
	Employee	92	22.1	
	Unemployed	21	4.6	
marital status	Single	102	33.6	
	Married	312	76.4	
education	High school	194	47.3	
	Diploma to Bachelor	183	43.6	
	Senior up	37	9.1	
Income	Down	210	50.8	
	Medium	163	37.4	
	Top	41	12.8	
Family history of hypertension	Not having	123	42.1	
	Having	291	57.9	
	Total	414	100	

Knowledge, attitude and practice were assessed according to standard deviation and mean scores. The frequency of knowledge showed that 3% had good knowledge, 32% had moderate knowledge and 65% had poor knowledge. The frequency of attitude score showed that 7% were good, 31% moderate and 62% poor. Furthermore the practice score was determined to be good (12%), moderate (49%) and poor (39%). In general, a mean score of 7.6± 91 was found for low level of knowledge, followed by a poor attitude (an average of 4.38±1.19), and a moderate practice (37.41± 7.3), (TABLE II).

I.   TABLE II

AWARENESS, ATTITUDE AND PRACTICE OF INDIVIDUALS

Level	Awareness	attitude	practice
	Mean percent	Mean percent	Mean percent
Weak	65	62	39
Moderate	32	31	49
Good	3	7	12
Total mean	7/6 ± 38/6	5 /38 ± 1/19	07/3 ± 37.41

A significant relationship of patients' knowledge, attitude and practice score with their education and income was found (p = 0.02, p = 0.01). The level of knowledge, attitude and practice related to blood pressure in patients with high education and income was significantly higher than other patients (Table 3). No significant relationship of patients' knowledge, attitude and practice scores with age, gender, marital status, patients 'occupation and family history of hypertension (p> 0.05).

I.   TABLE IIIIIIV

THE RELATIONSHIP BETWEEN AWARENESS AND ATTITUDE AND PRACTICE

Variables	Parameters	awareness	attitude	practice	Significant
Age	40-25	8.1	4.4	36.5	0.09
	55-41	7.3	4.9	39.7	
	80-56	8.2	4.7	35.6	
Gender	Male	7.3	4.8	39.1	0.12
	Female	8.2	4.6	35.6	
Patients' jobs	Free/housewife	7.2	4.5	36.4	0.09
	Employee	8.1	4.8	36.9	
	Unemployed	7.4	4.7	37.6	
marital status	Single	8.1	4.8	36.9	0.18
	Married	7.3	4.6	38.1	
Education	High school	4.1	2.9	23.1	0.01
	Diploma to Bachelor	8.6	5.4	43.9	
	Senior up	8.5	5.7	42.5	
Income	Down	6.1	2.9	19.3	0.02
	Moderate	7.6	5.3	41.9	
	Top	8.4	5.8	44.3	
Family history of hypertension	Not having	7.5	4.4	36.8	0.15
	Having	7.9	4.9	39.3	

VII.   DISCUSSION

The present study showed that 3% of patients had good knowledge, followed by moderate knowledge (32%) and poor knowledge (65%). The frequency of attitude score showed that 7% had good, followed by moderate (31%) and poor (62%). 12% of patients had good score for practice, followed by moderate (49%) and poor (39%). All in all, the patients had poor level of knowledge and attitude and moderate practice. Similar studies have shown that patients with hypertension have low levels of awareness and attitude (13, 14). Similar findings in Pakistan show that knowledge and attitude were higher in healthy individuals than in hypertensive patients and patients with complications of hypertension had low awareness (15).

In contrast, another study in Afghanistan showed that knowledge about hypertension was sufficient among respondents (16). Another study in Iran showed that most people in the community had good information about hypertension and had a good attitude but poor practice (17). A study in Oman showed that most participants were sufficiently aware of the risk factors for heart disease and hypertension, e.g., smoking, obesity, hypertension, and physical activity (18).

Our study showed that patients' knowledge, attitude and practice scores are related to their education and income. The level of knowledge, attitude and practice related to blood pressure in patients with education and high income was significantly higher than other patients. In similar studies, education was found to be related to blood pressure in patients (13-15, 19). In a similar study by Ul Haq et al., a positive linear correlations confirm that more knowledge can lead to a positive attitude and consequently better practice in patients with hypertension (15).

In our study, 47.3% of patients had a middle school degree. Studies in India have shown that among 318 patients, the level of education of 43.08% of patients was secondary education and blood pressure was 110-240 / 70-120 mm Hg. The level of knowledge and attitude among patients was related to the level of education. They stated that providing basic training to improve knowledge, attitude and practice among hypertensive patients is important for better blood pressure management (19).

Findings showed that the level of knowledge is low in people with high blood pressure in developing countries. A study of 371 hypertensive patients in Sri Lanka found that 3.2 patients had never attended school. About half of them (47.7%) had not even finished elementary school. They stated that one of the biggest factors related to patients' practice was forgetting to use drugs regularly and measuring blood pressure regularly (13). Other studies have found that attention to education is effective in reducing and controlling blood pressure (14, 20). In patients with diabetes, high income, higher education, gender, had an effect on people's knowledge of cardiac risk factors, which was consistent with our study (21).

All in all, the patients had poor level of knowledge and attitude and moderate practice, which indicated low knowledge and attitude of patients about blood pressure.

Certainly, basic education about health-promoting behaviors and awareness of the risk factors for hypertension can affect the health of most patients. In this regard, Hosseinnejad et al. reported in their studies that among the health-promoting behaviors, stress management and physical activity have had inadequate results, but implementation of interventions with emphasis on lifestyle components of health promotion has been recommended (22).

Akesson et al. reported that awareness of cardiovascular risk factors will have a positive impact on people's lifestyles. The researchers examined the role of diet and low-risk lifestyle in the early prevention of heart attack in men and found that approximately 4 out of 5 heart attacks in men may be preventable by combining low-risk behaviors (Healthy food, moderate alcohol consumption, no smoking and physical activity, and no abdominal obesity) (23).

Health-promoting behaviors will certainly have beneficial effects on the prevention of hypertension, and vice versa, ignorance of the risk of hypertension will double the risk of developing the disease. In the Ammouri study in 2018, the results showed a positive relationship between awareness of risk factors and health-promoting behaviors (24). Pouy stated in his 2015 study that health-promoting knowledge is effective in reducing cardiovascular disease. Among the recommendations for coronary artery control today are lifestyle modification, training in proper nutritional patterns, and a healthy diet.

One of the limitations of the study was that a number of patients, such as middle-aged and illiterate patients, were unable to complete the questionnaire correctly. Patients filled out questionnaires so that patients could answer questions more calmly and accurately. Other limitations and concerns of some patients in answering the questions were due to the fear of reporting their opinions to hospital officials, thus we tried to spend a lot of time trying for justifying and explaining the nature of the research.

VIII. CONCLUSION

Awareness, patients' attitudes were determined at a poor level and performance was at a moderate level, indicating that more attention to this issue is important. Also, various factors such as education and income have a direct impact on this issue. It is suggested that studies be conducted on the impact of culture on awareness of risk factors for hypertension and lifestyle and the relationship between awareness of hypertension risk factors and health-promoting lifestyle in different regions and cities of Afghanistan, as well as in different populations. Also, providing educational solutions through national and social media can be effective in increasing people's awareness.

References

[1]   Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: analysis of worldwide data. Lancet. 2005; 365:217–223.

[2]   Cheung BMY, Or B, Fei Y, Tsoi MF. A 2020 Vision of Hypertension. Korean Circ J. 2020;50(6):469-475.

[3]   Gois PH, Souza ER (September 2020). "Pharmacotherapy for hyperuricaemia in hypertensive patients". The Cochrane Database of Systematic Reviews. 9: CD008652.

[4]   Campbell NR, Lackland DT, Lisheng L, Niebylski ML, Nilsson PM, Zhang XH (March 2015). "Using the Global Burden of Disease study to assist development of nation-specific fact sheets to promote prevention and control of hypertension and reduction in dietary salt: a resource from the World Hypertension League". Journal of Clinical Hypertension. 17 (3): 165–7.

[5]   World Health Organization (WHO): 'Global Health Observatory (GHO) data'. 2016. Accessed 04 April 2021

[6]   Chow CK, Teo KK, Rangarajan S, Islam S, Gupta R, Avezum A, et al. Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries. JAMA. 2013; 310(9):959–968

[7]   Chimberengwa PT, Naidoo M. A description of community-based participatory research of hypertension awareness, prevention and treatment in a district of Matabeleland South Province, Zimbabwe. Afr J Prm Health Care Fam Med. 2019;11(1), a1839.

[8]   Muñoz Aguilera E, Suvan J, Buti J, Czesnikiewicz-Guzik M, Barbosa Ribeiro A, Orlandi M, et al. (January 2020). Lembo G (ed.). "Periodontitis is associated with hypertension: a systematic review and meta-analysis". Cardiovascular Research. 116 (1): 28–39

[9]   Unger T, Borghi C, Charchar F, Khan NA, Poulter NR, Prabhakaran D, et al. (June 2020). "2020 International Society of Hypertension Global Hypertension Practice Guidelines". Hypertension. 75 (6): 1334–1357.

[10]   Saiz LC, Gorricho J, Garjón J, Celaya MC, Erviti J, Leache L (September 2020). "Blood pressure targets for the treatment of people with hypertension and cardiovascular disease". The Cochrane Database of Systematic Reviews. 9: CD010315.

[11]   Arguedas, Jose Agustin; Leiva, Viriam; Wright, James M. (17 December 2020). "Blood pressure targets in adults with hypertension". The Cochrane Database of Systematic Reviews. 12: CD004349

[12]   Ralapanawa U, Bopeththa K, Wickramasurendra N, Tennakoon S. Hypertension Knowledge, Attitude, and Practice in Adult Hypertensive Patients at a Tertiary Care Hospital in Sri Lanka. Int J Hypertens. 2020 Oct 21;2020:4642704.

[13]   Kameera Bopeththa, Noorika Wickramasurendra and Sampath Tennakoon. Hypertension Knowledge, Attitude, and Practice in Adult Hypertensive Patients at a Tertiary Care Hospital in Sri Lanka.International Journal of Hypertension.2020.8. 4642704.

[14]   Prabakaran, D. Jeemon, P. Ghosh S. et al., "Prevalence and incidence of hypertension: results from a representative cohort of over 16,000 adults in three cities of South Asia," Indian Heart Journal, vol. 69, no. 4, pp. 434–441, 2017.

[15]   ul Haq, N., Hassali, M.A., Shafie, A.A. et al. A cross sectional assessment of knowledge, attitude and practice towards Hepatitis B among healthy population of Quetta, Pakistan. BMC Public Health 12, 692 (2012).

[16]   Mohammad Bashaar, Fahad Saleem, Vijay Thawani, Mohamed Azmi Hassali, Tafseera Hashemi .Evaluation of hypertension related knowledge, attitudes and practices at community level in Kabul .Pharm Pharmacol Int J. 2019;7(3):106–112.

[17]   Lookian, F., & GHADRDAN, E., & MOUSAVI, M. (2018). Assessment of Knowledge, Attitude, and Practice in the General Population Regarding Hypertension: A Cross-Sectional Study from Iran. JOURNAL OF PHARMACEUTICAL CARE, 4(3-4), 62-67.

[18]   Ammouri, A. A., Tailakh, A., Isac, C., Kamanyire, J. K., Muliira, J. and Balachandran, S. (2016) Knowledge of coronary heart disease risk factors among a community sample in Oman: Pilot study. Sultan Qaboos University Medical Journal, 16(2), pp. e189.

[19]   Alak K. Das, Gautam Lahiri ,Aaheli Bose, Dipak K. Sarkar. Assessment of patients' knowledge, attitude and practice regarding hypertension in a tertiary care hospital. 2020. J of Community Medicine and Public Health.2020. 7(12):4967.

[20] Chimberengwa PT, Naidoo M; cooperative inquiry group. Knowledge, attitudes and practices related to hypertension among residents of a disadvantaged rural community in southern Zimbabwe. PLoS One. 2019;14(6):e0215500.

[21] Wagner, J., Lacey, K., Chyun, D. and Abbott, G. (2005) Development of a questionnaire to measure heart disease risk knowledge in people with diabetes: the Heart Disease Fact Questionnaire. Patient education and counseling, 58(1), pp. 82-87.

[22] Hosseini nezhad, M. (2013) Lifestyle among Students of Islamic Azad University, Kerman Branch based on the Pender's Health Promotion model. Nursing, 5, pp. 1-10.

[23] Åkesson, A., Larsson, S. C., Discacciati, A. and Wolk, A. (2014) Low-risk diet and lifestyle habits in the primary prevention of myocardial infarction in men: a population-based prospective cohort study. Journal of the American College of Cardiology, 64(13), pp. 1299-1306.

[24] Ammouri, A. A., Raddaha, A. H. A., Tailakh, A., Kamanyire, J., Achora, S. and Isac, C. (2018b) Risk Knowledge and Awareness of Coronary Heart Disease, and Health Promotion Behaviors Among Adults in Oman. Research and theory for nursing practice, 32(1), pp. 46-62.

[25] Pouy, H. (2015) Relationship between Health Promoting Behaviors and Severity of Coronary Artery Stenosis in Angiography Department in Mazandaran Heart Center. Mazndaran UNiv Med Sci, 25(130), pp. 19-29.