

Knowledge, attitude and practice of general physicians in treatment and complications of hypertension in Fars province, southern Iran

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Abstract

Background: Hypertension as a community health problem, showing an increasing trend in many parts of the world. Controlling the disease depends on knowledge, attitude and practice (KAP) of general physicians as the main health providers in the community. In this study, the impact of KAP of general physicians on hypertension, as the first line of treatment of hypertension was evaluated.

Methods: In a cross-sectional study, 300 general physicians working in health and treatment sectors of Fars Province, southern Iran were entered in our study and their KAP were determined utilizing a validated and reliable questionnaire. The questionnaire consisted of 52 items incorporated in four sections.

Results: The mean age of general physicians was 38.2 ± 3.6 years. 64.2%, 20.3%, and 26.5% of general physicians were visited by four to eight, more than eight, and less than four hypertensive patients per week respectively. Although 99% of physicians believed in the importance of hypertension as a community health problem, but 12% had requested for appropriate paraclinical tests and 20% could handle hypertensive patients properly. Only 45% of physicians had measured their own blood pressure within the last year of practice. Scientific meetings and educational programs were more important than information provided by drug companies and journals in promotion of knowledge, attitude and practice of general physicians.

Conclusion: Since the physician's knowledge, attitude and practice are important issues in controlling and prevention of hypertension, promotion of their knowledge on hypertension seems necessary in prevention of subsequent complications.

Keywords: Hypertension; Physician; Knowledge

Introduction

Hypertension as a community health problem shows an increasing incidence in many coun-

tries.^{1,2} It has been shown that the prevalence of hypertension varies from 10 to 20% in different European, Asian and African countries.^{2,4} Although hypertension is a preventable risk factor,⁵ involvement of general practitioners, internists and other medical disciplines in recognition and treatment of the dis-

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ease would be undoubtedly beneficial.⁶⁻⁸ Implementation of guidelines in diagnosis, treatment and prevention of non-communicable diseases is dependent on KAP of physicians involved in health and treatment sector.⁹ Since hypertension is one of the risk factors in cardiovascular diseases,¹⁰ recognition of the correct indices for treatment seems to be indispensable. As general practitioners are in the first line of treatment in Iran, their KAP are determining factors in controlling of the disease. Population-based studies showed that only 50% of hypertensive patients are properly treated or their hypertension is controlled.¹¹ So, in the present study, the knowledge, attitude and practice of general practitioners were evaluated in relation to hypertension as risk factors of heart diseases.

Materials and Methods

In 2005, in a cross-sectional study, 300 out of 1200 general practitioners participating in continued educational courses and were active in health and treatment sectors in Fars

Table 1: Demographic characteristics of participant physicians in the study

Parameter	%
<i>Sex</i>	
Male	66
Female	34
<i>Experience (years)</i>	
Less than 6	25.2
3-10	56.8
>10	18
<i>Place of activity</i>	
Private	73.1
Governmental	20.2
Academic	6.7

Province, southern Iran during the last three months, were consecutively selected using a convenience sampling method. Incomplete questionnaires were replaced by that of the next general physician. The questionnaires were comprised of 52 questions in 4 sections as to demographic, knowledge, attitude and practice of physicians on treatment of hypertension. Cardiologists and epidemiologists of Shiraz University of Medical Sciences confirmed the validity and reliability of the questionnaire. Confidentiality was exercised in

Table 2: General physicians' knowledge about hypertension therapy

Parameter	Agree (%)	Disagree (%)
Sympathomimetic therapy of mild hypertension	75	25
ACE-Inhi treatment of mild hypertension	77	23
Treatment of mild hypertension by calcium antagonists	55	45
Diuretic therapy for mild hypertension	44	52
Treatment discontinuation in case of failure in control of hypertension using antihypertensive agents	15	85
Dose increase as the next step in control of hypertension	57.2	42.8
Drug alteration as the next step in control of hypertension	21.7	80.3
Adding a new drug in case of failure in control of hypertension	20	80
Follow up without any drug intervention in case of failure in control of hypertension	1	99

collection and evaluation of questionnaires. Collected data were analyzed by SPSS 11.5 software and a *p* value <0.05 was considered significant.

Results

Out of 300 physicians, 198 (66%) were male with a mean age of 38.2±3.6 years. Table 1 shows the demographic data of physicians. 99% of physicians considered hypertension as an important health problem. 15% of physicians believed to one, 80% to 2-4 and 5% to more than four visits to diagnose hypertension in patients while 64.2%, 20.3%, and 26.5% of them were visited by four to eight, more than eight, and less than four hypertensive patients per week respectively. 10% of general physicians had referred complications of hy-

pertension to a specialist, 15% did so in all patients with hypertensions and 2% had referred only secondary hypertensions to a specialist. 41.6%, 41.2% and 17.2% of physicians considered respectively 140:90 mmHg, 130:85 mmHg and 120:80 mmHg as desirable blood pressures. Only 45% had measured their own blood pressure within the last year. The sources of information of general practitioners on hypertension management were scientific meetings (70%), educational programs (85%), drug propagations (15%) and international journals (30%). Scientific meetings and educational programs were more popular than information provided by drug companies and journals for promotion of their knowledge, attitude and practice.

Their knowledge on medication and paraclinical diagnosis of hypertension are shown in Tables 2 and 3. Requisition for laboratory

Table 3: Physicians' knowledge on the necessity of paraclinical tests in treatment of hypertension

Parameter	Total (%)	Physicians with more than 3 years of experience (%)	Physicians with more than 10 years of experience (%)
Knowledge on accuracy of para-medical tests	12	6	3
Reason of paraclinical tests			
Evaluation of presence or absence of previous injury to the target organ	7	7	5
Determination of other associated risk factors	5	4	3
Secondary hypertension follow-up	4	3	2
All above factors	84	86	90
Type of test used			
Kidney function tests	83	48	67
Blood sugar test	85	88	60
Hyperlipidemia test	80	76	63
Urinalysis		80	58

Table 4: Evaluation of physicians' attitude on hypertension

Questions on attitude	Agree (%)	Disagree (%)
Hypertension is an important health hazard	99	1
Believing in primary prevention of hypertension	99	1
Believing in non-drug treatment of hypertension	83	17
Hypertension is caused by stress	9	91
Tendency to self-treatment in case of hypertension	58.3	41.7
Believing to herbal medicine in treatment of hypertension	55	45
Believing in special training programs for measurement of blood pressure	87	13

tests was documented in 56% of physicians (Table 4). 58.3% of physicians who suffered themselves from hypertension utilized self-treatment measures. Regular exercise (41%), reduction in salt consumption (32%) and weight loss (23%) were the known effective non-drug methods of treatment for hypertension reported by the physicians.

Discussion

Although hypertension and its related complications are preventable, it requires sufficient knowledge and skill on the part of general physicians for effective diagnosis and treatment of the disease. In the present study, nearly all of general practitioners considered hypertension as an important health hazard, particularly since several studies conducted in various cities of Iran have shown an increasing incidence of hypertension.¹² In a study from Italy, more than 75% of physicians believed that they were capable of controlling hypertension, but only 21% were aware of the exact diagnosis and treatment methods for hypertension.¹³ In another study conducted in USA, only 37.3% of physicians had sufficient knowledge on medical therapy of hypertension with the lowest rate belonging to general

practitioners.¹⁴ The dimensions of inadequate knowledge spanned also over other aspects of recognition and control of natural history of cardiovascular diseases.¹⁵ The problem can have grave consequences, as hypertension will counteract the correct continuation of the therapy and follow-up of these patients. In a similar study conducted in China, 15.3% of cardiologists, 15.2% of internists and psychiatrists and 7.2% from other specialties had sufficient knowledge on diagnosis and treatment of hypertension.¹⁶ In a similar study in that country, the knowledge of physicians on treatment of hypertension was 36.3% in urban and 13.7% in rural areas.¹⁶

In our study, only 12% of physicians had adequate knowledge on the number of necessary tests for diagnosis of hypertension. Also, in encountering the management of refractory hypertension, 20% of physicians used multidrug therapy while 57.2% implemented only an increase in the dose of drugs. Admittedly, the small number of responders (25%) to this question can be a limitation of this study. Surprisingly, the response rate to the questionnaires in USA also varied from 24.5% to 10.2% in various studies.^{13,14}

Furthermore, in our study, only 30% of physicians received their information from

articles and guidelines and 70% from their previous educational courses and scientific meetings. Increase in duration of medical curriculums did not cause any significant difference in the knowledge, attitude and practice of general physicians on hypertension. So, improvement in health networks, in family physician program and support of trainings programs to promote the knowledge, attitude and practice of general physicians on hyper-

tension will help them acquire more expertise in proper diagnosis and treatment measure of the disease.

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References

- 1 Hernandez-Hernandez R, Armas-padilla MC, Armas-Hernandez MJ, Velasco M. Hypertension and cardio vascular Health in Venezuela and latin countries. *J Hom Hypertens* 2000;**14**(Suppl 7):52-5.
- 2 Lenfant CE, Chobanian V, Jones DW, Roccella EJ. The seventh report of the National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC VII). *Circulation* 2003;**107**:2993-4.
- 3 Sarraf-Zadegan N, Seyed Tabatabaei FA, Bashardiist N. The prevalence of coronary artery disease in an urban population in Isfahan, Iran. *Acta Cardiol* 1999;**54**(5):252-63.
- 4 Khosravi A, pourmoghaddas M, Kelishadi R, Sabet B, Ansari R, Shirani S, et al. Trend in blood pressure level, prevalence and hypertension and its care in Isfahan. *MJIRC* 2005;**8**(2):62-8.
- 5 Anand MP. Non-pharmacological management of essential hypertension. *J Indian Med Assoc* 1999;**97**:220-5.
- 6 Sengwana MJ, Puoane T. Knowledge, belief and attitudes of community health worker about hypertension in the Cape Peninsula, South Africa. *Curationis* 2004;**27**(7):65-71.
- 7 Wolgram RM, Budinsky AC, Husslein P, Hoppichler F, Kritz H, Sinzinger H. Awareness of Austrian physicians of risk factors for the development of atherosclerosis. *Wien Klin Wochenschr* 2002;**114**(17-18):773-8.
- 8 Petrella RJ, Campbell NR. Awareness and misconception of hypertension in Canada: results of a national survey. *Can J Cardiol* 2005;**21**(7):589-93.
- 9 Moscal L, Linfante AH, Benjamin EJ, Berra K, Hayes SN, Walsch BW, et al. National study of physician awareness and adherence to cardiovascular disease prevention guidelines. *Circulation* 2005;**111**:499-510.
- 10 Pyorala K. Assessment of coronary heart disease risk in populations with different levels of risk. *Eur Heart J* 2000;**21**(5):348-50.
- 11 Noor-Bala AA, Mohammad K. Abstract report of Iranian health program. *Hakim J Med* 2001;**3**:173-91. [in Persian]
- 12 Mosalimani F, Nadi-Fard N, Sadri GH, Sarraf-Zadegan N, Bagheri AM, Shahtokhi SH, Hoseini SH, et al. The prevalence of cardiovascular risk factors in rural and urban population of Isfahan and Markazi provinces. *J Qazvin Univ Med Sci* 2003;**26**:5-14.
- 13 Cuspidi C, Micher I, Meani S, Severegnini B, Sala C, Salerno M, et al. Awareness of hypertension guidelines in primary care: results of a region wide survey in Italy. *Hum Hypertens* 2003;**17**(8):541-7.
- 14 Huse DM, Roht LH, Alpert JS, Hartz SC. Physicians' knowledge, attitudes, and practice of pharmacologic treatment of hypertension. *Ann Pharmacother* 2007;**35**(10):1173-9.
- 15 Moscal Linfante AH, Benjamin EJ, Berra K, Hayes SN, Walsh BW. National study of physician awareness and adherence to cardiovascular disease prevention guidelines. *Circulation* 2005;**111**:499-510.
- 16 Wang Z, Cao L, Wu Y. Difference in knowledge, attitude and behavior with respect to hypertension among cardiologist, neurologists, and other physicians in internal medicine. *Hypertens Res* 2001;**24**:459-62.