

Screening for Hypertension

Assessing the knowledge, attitudes and practice of primary health care physicians in Riyadh, Saudi Arabia

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ABSTRACT

Objective: The aim of this study is to assess the performance of primary health care physicians in screening people for hypertension in Riyadh, Kingdom of Saudi Arabia, by assessing their knowledge, attitudes and practice.

Methods: A cross-sectional descriptive study including 20 primary health care centers were selected randomly in Riyadh city during September 1996. The participation of 107 primary health care working doctors in these centers were invited to complete a 38 item questionnaire which contained essential knowledge regarding hypertension, screening for hypertension, their attitudes and practice in screening for hypertension.

Results: One 3rd of the doctors knew the correct definition of hypertension. Prevalence of hypertension in the Kingdom of Saudi Arabia was well known by 42% of doctors, only 57% doctors knew the major complication

of hypertension. Most (91%) thought that screening of people for hypertension was worthwhile. The majority of doctors (94%) recorded blood pressure at the time of opening the Family Health Records file, but only 56% of doctors would actually screen patients above 35 years of age every 3-5 years

Conclusions: Current working primary health care physicians having poor knowledge of screening hypertension and favorable attitudes towards screening people for hypertension. Thus most probably, this actual practice is not yet optimal. Measures to remedy this situation were suggested.

Keywords: Hypertension, screening, primary health care, physicians.

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Hypertension (HTN) is a common serious health problem associated with high morbidity and mortality rates. The majority of cases are asymptomatic which could be unrecognized and untreated leading to a significantly higher risk of coronary disease, heart failure, renal failure and stroke.¹ The absence of symptoms in most patients with HTN, even at its highest and most dangerous levels, has profound implications for the effective management of the condition in primary care. Without a systematic attempt to screen and follow up our patients and to audit this process the "rule of

halves" will apply. This rule implies that half of the hypertensive patients will be undiscovered; half of them will be treated and only half of those receiving treatment will be adequately controlled.

The definition of HTN is arbitrary and varies from country to country. Most definitions of HTN refer to a level of blood pressure (BP) associated with a substantial risk of complications.² A major consensus report, the 5th report of the National Committee on detection, evaluation, and treatment of high BP in Philadelphia 1995, recommends a systolic blood pressure (SBP) \geq to 140 mmHg or diastolic blood

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pressure (DBP) of 90 mmHg or more for the definition of HTN.² The prevalence of HTN in the Kingdom of Saudi Arabia has not been, to date, appropriately worked out, but in some preliminary reports from the East, Central and West regions prevalence ranges between 5%-8%. This is less in comparison to that in British 25% and American 30%³ studies where a similar definition of HTN was used. Screening aims to detect occult disease in asymptomatic person by concentrating on those with risk factors.⁴ The benefit of screening is the identification of risk factors, which may allow early intervention to prevent disease occurrence and early detection of occult disease and thereby reduce the disease morbidity and mortality through early treatment. Measurement of BP can detect HTN even in the early pre-symptomatic phase and the screening technique is simple, cheap and acceptable. The initial hypothesis was that screening for HTN was not carried out appropriately in primary health care (PHC) services. This was inferred from studies carried out on hypertension,⁵ and other chronic illnesses such as diabetes mellitus,⁶ bronchial asthma,⁷ and epilepsy.⁸ These studies have collectively concluded that the chronic diseases were not adequately screened for, and patients were not appropriately controlled. The PHC system is easily accessible and can cover a major section of the community, so we think screening through these services (PHC) is suitable and appropriate. The aim of this study is to assess performance of PHC physicians in screening for HTN in Riyadh, Kingdom of Saudi Arabia. Assessing the knowledge, attitudes and practice in relation to screening in HTN will carry this out.

Methods. This study is a cross-sectional descriptive study. It was conducted in 20 Primary Health Care Centers (PHCC) in Riyadh city. The study centers constitute 34% of all Riyadh PHCC by using the simple stratified method of randomization. These centers were selected from each all 5 districts of Riyadh (north, middle, east, west and south), to ensure a generalized view from PHC physicians. During the month of September 1995, a self administered questionnaire was distributed to all the doctors serving in the study centers (116 physicians), the response rate was 92%. The questionnaire was composed of 38 items which includes: 1. Independent variables=demographic data of the physicians (including age, sex, nationality, highest degree, years of experience in PHC and doctors speciality). 2. Dependent variables=includes knowledge of the definition and screening of HTN as a community problem, attitude and practice of PHC physicians regarding the screening of HTN. Also, some questions regarding Saudi Manual of Quality Assurance. The questionnaire was initially piloted in one PHC Center (7 physicians). The mean time needed to fill out the questionnaire was 15 minutes, and there were a few questions, which needed to be modified. Data was controlled and analyzed by "DATASTAR" and "SYSTAT" programmes. The chi-square test was used to examine statistical differences between above mentioned variables.

Results. A total of 107 PHC physicians 33% of all PHC physicians in Riyadh city participated in the study. Their ages ranged from 27-59 years with a mean age of 40.7 and a standard deviation (SD) of 8.09 years. Fifty-six percent of the PHC physicians

Table 1 - The relation between demographic data of primary health care physicians and their knowledge in definition and grading of hypertension.

Doctors knowledge		Age			Sex		Degree		Yrs of experience in PHC		Total
		< 40 yrs	40-49 yrs	>49 yrs	Male	Female	MBBS	Higher	<10 yrs	>10yrs	
		n %	n %	n %	n %	n %	n %	n %	n %	n %	
Definition of HTN	>=140/90 "Correct"	16 (34)	8 (20.5)	6 (28.5)	12 (20)	18 (38)	26 (30)	4 (19)	22 (31)	8 (22)	30 (28)
	"Incorrect Answer"	31 (66)	31 (79.5)	15 (71.5)	48 (80)	29 (62)	60 (70)	17 (81)	49 (69)	28 (78)	77 (72)
Grading of HTN	Mild HTN	35 (74.5)	28 (72)	18 (86)	47 (87)	34 (72)	67 (78)	14 (67)	50 (70)	31 (86)	81 (76)
	Moderate HTN	38 (81)	34 (87)	18 (86)	52 (87)	38 (81)	73 (85)	17 (81)	58 (82)	32 (89)	90 (84)
(Correct Answer)	Severe HTN	32 (68)	22 (56)	14 (67)	39 (65)	29 (62)	53 (62)	15 (71)	46 (65)	22 (61)	68 (63.5)
Total		(47)	(39)	(21)	(60)	(47)	(86)	(21)	(71)	(36)	107 (100)

yrs=years, n=number, HTN=hypertension, PHC=primary health care

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Table 2 - Primary health care physicians attitude regarding screening people for hypertension by demographic data.

Doctors attitude		Age			Sex		Degree		Yrs of experience in PHC		Total	
		< 40 yrs	40-49 yrs	>49 yrs	Male	Female	MBBS	Higher	<10 yrs	>10yrs		
		n %	n %	n %	n %	n %	n %	n %	n %	n %	n %	n %
Screening for HTN is worthwhile	Yes	43 (91.5)	36 (92)	18 (86)	56 (93)	41 (87)	78 (91)	19 (90.5)	64 (90)	33 (92)	97 (91)	
Role of GP is early detection	Yes	46 (98)	39 (100)	20 (95)	60 (100)	45 (96)	84 (98)	21 (100)	69 (97)	36 (100)	105 (98)	
Considering measurement of BP when patient attends PHC	Yes	33 (70)	34 (87)	20 (95)	52 (87)	35 (74.5)	72 (84)	15 (71)	52 (73)	35 (97)	87 (81)	
Screening should be carried out because	It is not time consuming	39 (83)	33 (85)	20 (95)	53 (83)	39 (83)	75 (87)	17 (81)	58 (82)	34 (94)	92 (86)	
	It is practical	33 (70)	38 (97)	20 (95)	57 (95)	34 (72)	75 (87)	16 (76)	56 (79)	35 (79)	91 (85)	
	Patient is responding to follow up	37 (79)	33 (85)	15 (71)	49 (82)	36 (77)	71 (83)	14 (67)	52 (73)	33 (92)	85 (79.5)	
Total		(47)	(39)	(21)	(60)	(47)	(86)	(21)	(71)	(36)	107 (100)	

yrs=years, PHC=primary health care, n=number, HTN=hypertension, GP=general practitioner, BP=blood pressure

Table 3 - Primary health care physicians practice regarding screening for hypertension.

Doctors practice		Age			Sex		Degree		Yrs of experience in PHC		Total	
		< 40 yrs	40-49 yrs	>49 yrs	Male	Female	MBBS	Higher	<10 yrs	>10yrs		
		n %	n %	n %	n %	n %	n %	n %	n %	n %	n %	n %
Recording BP at the time of opening an FHRF*	Yes	45 (96)	36 (92)	19 (90.5)	56 (93)	44 (94)	80 (93)	20 (95)	65 (91.5)	35 (97)	100 (93)	
Screening patient above 35 yrs every 3-5 yrs	Yes	5 (11)	0 (0)	1 (5)	6 (10)	0 (0)	4 (5)	2 (9.5)	4 (6)	2 (6)	6 (6)	
Screening patient with risk factors of HTN 6 monthly	Yes	30 (63)	30 (77)	18 (86)	44 (73)	34 (72)	64 (74)	14 (67)	48 (68)	30 (83)	78 (72)	
Total		(47)	(39)	(21)	(60)	(47)	(86)	(21)	(71)	(36)	107 (100)	

PHC=primary health care, n=number, HTN=hypertension, GP=general practitioner, BP=blood pressure, FHRF=family health record file

were males. Saudis constitute the minority of the participants, 12 physicians (11%) and only 21 physicians (20%) have postgraduate qualifications in the form of diplomas, master, board. Twenty one percent PHC physicians stated that they have a PHC qualification of one kind or another. Table 1 shows the accuracy of the knowledge of PHC physicians in defining and grading HTN. Only 30 physicians (28%) knew the correct definition of HTN. Female doctors tended to do better (38%) than male doctors (20%), but this was not statistically significant ($P=0.06$). Doctors with experience of less than 10 years seemed to know the definition of HTN (31%) better than doctors with experience of more than 10 years (22%), but this was also not significant ($P = 0.46$). On enquiring with regards to defining the grades of HTN, most of the doctors (76%) knew the correct definition of mild HTN, (DBP=90–104 mmHg) while those who knew the definition of moderate HTN (105-114 mmHg) constituted 84%. A smaller proportion of the physicians (63.5%) knew the definition of severe HTN, (>115 mmHg) among them, doctors with higher degrees and who were working less than 10 years than in PHC were more likely to accurately define severe HTN, which is highly significant (P value = 0.006). Most of the PHC physicians (93%) record BP at the time of opening a Family Health Records File (Table 3). However, only 6 physicians (6%) actually screen patients above 35 years of age every 3 or 5 years.

Discussion. The demographic characteristics of participating physicians in the present study was similar to previous studies on PHC in Riyadh.⁵⁻⁸ The discrepancy between their response and actual qualifications may be attributed to the fact that the Ministry of Health (MOH) provide some doctors with courses in PHC ranging between one week to one month, which is considered by some doctors as a qualifications in PHC. The majority of the physicians participating in the study have a favorable attitude towards screening people for HTN. But only a low percentage knew the correct answer to the definition of HTN (>140/90 mmHg) which is considered as a serious defect to this very important question in HTN. The reason for this may be due to doctors in PHC following other definitions of HTN which is less than this range (> 140/90 mmHg). The younger doctors in the present study have a better knowledge than the older ones. Although this finding was not statistically significant, it conforms with what was recently reported that doctors knowledge is reduced after 10 years of experience.⁹ The PHC doctors are less exposed to severe cases of HTN. This is reflected in their poor knowledge of the correct definition of severe HTN. Continuing medical education programs should tackle this defect so that

cases are not missed and properly managed. The current findings emphasize the need for a continuing campaign to improve PHC doctors awareness of prevalence and complications of HTN. This may in turn improve early detection and management of cases. It is noteworthy that the MOH produced a quality assurance (QA) manual tackling some of the chronic diseases including hypertension.¹⁰ However, one may conclude that most of the working doctors in PHC are aware of the availability of the Saudi QA document, but are probably not aware of its contents. This is clearly evident in their unsatisfactory response to when and how frequently to screen their catchment area population for HTN. The practice goes in parallel with their knowledge and may be unsatisfactory in the sense that it overloads the physicians with unnecessary efforts. It reflects that they are still caring doctors and are not ignoring the problem.

In conclusion, the current PHC doctors have favorable attitudes towards screening people for HTN but low knowledge regarding prevalence, complications and frequency of screening for HTN. So we reach the following recommendation: it is evident that PHC physicians are in need of more continuing medial education to improve their knowledge and practice toward HTN, available local and international manuals should be made accessible to PHC and workshops and seminars on how to make use of these guidelines would improve doctors performances.

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