Original Article

Awareness of Hypertension among patients attending Primary Health Care Centre and Outpatient Department of tertiary care hospital of Karachi

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Abstract

Objective: To compare awareness of hypertension among patients attending Primary Health Care Centre (PHC) and outpatient department (OPD) of a tertiary care hospital of Karachi.

Methods: Cross sectional survey of patients more than 18 years of age without any complication of hypertension in a squatter settlement of Karachi through non-probability convenient sampling.

Results: A total 202 patients were approached, 49 (24%) were males and 153 (76%) were females. Majority of the patients attending tertiary care OPD (80%) and 56% from PHC group believed that hypertension could lead to cardiovascular disease (CVD). On inquiring the duration of taking antihypertensive drugs, 61% from tertiary care OPD group and 31% of PHC group said they are taken only for few months ($p<0.001$). Over two-third (77%) of patient of tertiary OPD were not doing exercise and not avoiding oily and heavy food to keep their weight under control. Large number of OPD patients (91%) used oil for cooking in comparison to PHC group (78%) who utilized ghee ($p<0.001$).

Conclusion: This study showed a marked difference in awareness regarding hypertension in urban slum and middle class community, which can be attributed to the level of education. This outcome reveals need for more awareness campaigns especially in the squatter settlement with special emphasis on lifestyle modifications along with pharmacological therapy for the better control of hypertension (JPMA 57:396:2007).

Introduction

Hypertension is one of the major risk factors for cardiovascular diseases and an important cause of morbidity and mortality accounting for a large proportion of coronary heart diseases.[1] It is one of the non-communicable diseases imposing a double burden on the developing countries already combating the challenges of existing problems with infectious diseases.[2-4] Pakistan is also one of such countries where one in three individuals over the age of 45 years is hypertensive as revealed by the National Health Survey (NHS).[5] A further analysis of NHS revealed 17% prevalence of risk factors for cardiovascular diseases in Pakistani population.[6] This alarming situation calls for a shift from curative to preventive cardiology for reducing cardiovascular events. Therefore early detection, adequate treatment and control of hypertension are the key components of the integrated management of cardiovascular risk.

Patient's knowledge regarding hypertension and its complications is an important factor in achieving better compliance and control as shown in an Arabian study.[7] Compliance involves not only taking the prescribed medications but also adherence to follow up appointments and maintaining the recommended lifestyle modifications. In addition, the patient should be an active participant in the plan of care.

This study was conducted with the objective to compare awareness regarding hypertension among patients attending OPD in a tertiary care unit and Primary Health Care Center.

Methodology

This was a cross-sectional study conducted at Primary Health Care (PHC) center in Gulshan-e-Sikandarabad, a squatter settlement situated near Ziauddin University (ZU) Clifton campus and the Internal Medicine Clinic at Ziauddin Hospital (ZH), North Nazimabad campus, Karachi. The PHC center is situated in a low socioeconomic area with a population of approximately 20,000. Majority of the inhabitants are labourers or transporters with a poor literacy level. The PHC center is a low cost OPD running under supervision of ZU. The North Nazimabad campus of ZH is a 250 bed tertiary care hospital, the patients attending OPD in this hospital mostly belong to the middle socioeconomic class.

The faculty members interviewed patients using a pre-tested structured questionnaire through non-probability convenient sampling method. Patients aged more than 18 years without any complications of hypertension were included in the study. Exclusion criteria were patients presenting with complications of hypertension like stroke, cerebrovascular accidents (CVA), etc, and patients presenting with co-

morbidities like diabetes mellitus, renal failure and ischemic heart disease (IHD). The interviewer also measured and recorded the blood pressure in the right arm with the patient sitting quietly using a calibrated aneroid sphygmomanometer. The patients were classified as hypertensive on the basis of Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) guidelines.[8] Weight was measured in kilograms (kg) using a bathroom scale and standing height was measured in centimeters (cm) using a measuring tape. Body mass index (BMI) was calculated as weight in kg divided by height in meters squared. Patients having BMI of less than 18.5 were classified as underweight, from 18.5 to 25 were considered normal, from 25 to less than 30 were overweight, whereas those more than 30 were considered obese.

Data obtained comprised of age, sex, marital status, educational level, family history of hypertension, smoking status, physical exercise, drug compliance, knowledge regarding complications of hypertension, duration of antihypertensives for control of hypertension, symptoms of hypertension, knowledge regarding blood sugar, cholesterol and ECG. Their attitude was assessed by regular visits to the doctor for BP monitoring. Inquiry was also made regarding decrease in salt intake, weight reduction, regular exercise and use of cooking oil.

Data entry and analysis was done using SPSS version 10, frequencies of different variables were determined. Chi-square test was applied to measure association between different variables in two groups and test of proportions was used to compare knowledge between patients at the two different clinics at p-value <0.05.

Results

A total of 202 hypertensive adults were interviewed with 106 from tertiary care OPD and 96 from PHC center. The majority of patients were more than 49 years of age with male to female ratio of 1:3 in both groups. Seventy five percent of the OPD patients were Urdu speaking whereas 81% from PHC group belonged to the Pathan community. Over half of the tertiary group patients (56%) were matriculate or above, whereas most of the patients (85%) from PHC group were uneducated (p<0.001). The characteristics of the patients are presented in Table 1. The mean systolic and diastolic blood pressure of patients was 143.7+15.7 mmHg and 91.3+8.5 mmHg respectively. The mean BMI of patients from both groups was 28.05 +4.32 kg/m^2. On the basis of JNC 7, 34.7% had normal (controlled) systolic blood pressure and 29.7% had normal (controlled) diastolic blood pressure.

Knowledge and attitude of the patients regarding hypertension is shown in Table 2. Majority of patients attending tertiary care OPD were well aware of the complications of hypertension. Eighty percent patients believed that hypertension could lead to cardiovascular disease (CVS), whereas 58% from PHC group considered hypertension as a risk factor for cardiovascular disease. In relation to cerebrovascular accident (CVA), 80% from tertiary OPD and 55% from PHC group supposed that hypertension could lead to CVA (p<0.001).

Seventy one percent from OPD group and 76% from

Table 1. Characteristics of hypertensive patients.

	OPD n=106 (%)		PHC n=96 (%)		p-value
Age group					<0.001
20-39 years	12	(11)	17	(18)	
40-59	56	(53)	72	(75)	
60-79	38	(36)	7	(7)	
Gender					0.452
Male	28	(26)	21	(22)	
Female	78	(74)	75	(78)	
Ethnicity					<0.001
Urdu speaking	79	(75)	7	(7)	
Others	27	(25)	89	(93)	
Education of patient					<0.001
No Education	29	(27)	82	(85)	
Primary & Secondary	18	(17)	11	(11)	
Matric and above	59	(56)	3	(3)	
Employment Status					<0.001
Labourer / driver	3	(3)	17	(18)	
Housewife	61	(58)	72	(75)	
Retired	13	(12)	2	(2)	
Private job / Professional	29	(27)	5	(5)	
Marital status					0.64
Married	98	(93)	87	(91)	
Unmarried / divorced / separated / widow	8	(8)	9	(9)	
BMI of patient					0.142
18.5-24.9	23	(22)	14	(15)	
25-29.9	36	(34)	45	(47)	
>30	47	(44)	37	(39)	
Smoking status					0.61
Current / ex-smoker	16	(15)	17	(18)	
Non-smoker	90	(85)	79	(82)	
Family History of Hypertension					0.514
Yes	57	(54)	56	(58)	
No / Don't know	49	(46)	40	(42)	
Exercise					0.002
Sedentary	84	(79)	90	(94)	
Mild / moderate	22	(21)	6	(6)	

Table 2. Knowledge and Attitude of patients regarding hypertension.

	OPD		PHC		p-value
	n=106	(%)	n=96	(%)	
Antihypertensives taken regularly	75	(71)	33	(34)	<0.001
Taking antihypertensive life long	65	(61)	30	(31)	<0.001
Hypertension causes CVD	85	(80)	56	(58)	0.003
Hypertension causes CVA	85	(80)	53	(55)	<0.001
Salt intake increases BP	91	(86)	70	(73)	0.067
Obesity increases BP	58	(55)	47	(49)	0.072
Smoking increases BP	30	(28)	23	(24)	0.01
Exercise decreases BP	51	(48)	28	(29)	0.01
Awareness of symptoms	31	(29)	13	(14)	0.02
Patient knows the BP value	57	(54)	20	(21)	<0.001
Gets cholesterol checked regularly	66	(62)	20	(21)	<0.001
Gets blood glucose checked regularly	69	(65)	25	(26)	<0.001
Gets ECG regularly	70	(66)	28	(29)	<0.001
Visit doctor 4 times / year	74	(70)	59	(62)	0.211
Visit doctor annually	24	(23)	18	(19)	0.496
BP checked every month	83	(78)	58	(60)	0.005
Eat less salt	86	(81)	50	(52)	<0.001
Do exercise	29	(27)	9	(9)	<0.001
Reduce weight	41	(39)	14	(15)	<0.001
Use oil for cooking	96	(91)	21	(30)	<0.001

the PHC group did not know that smoking has any relationship with hypertension (p=0.01). On the other hand, 48% patients from OPD group and 29% from PHC group considered exercise having significant role in controlling hypertension (p<0.01). Forty seven percent in the OPD group and 79% in PHC group did not know about the values at which blood pressure is considered high (p<0.001). On inquiring the duration of taking antihypertensive drugs, 61% from tertiary care OPD group and 31% of PHC group said they are taken only for few months (p<0.001).

One third of patients (34%) from OPD and 71% from PHC group were unaware about electrocardiogram (ECG), 38% from OPD and 79% from PHC group did not know about blood cholesterol and 35% from OPD and 74% from PHC group did not get their blood sugar level checked regularly.

The attitude of patients regarding control of hypertension is shown in table 2. Majority of patients from tertiary OPD and PHC group visited the doctor at least four times per year. Seventy eight percent patients from tertiary group and 60% patients from PHC group had blood pressure checked less than a month ago (p<0.001). Almost 80% of patients from tertiary OPD group had reduced salt intake in contrast 48% from the PHC group who did not reduce salt intake during hypertension (p<0.001). Over two-thirds (77%) of tertiary OPD patients were not doing exercise as compared to 91% of PHC group. Large number of OPD patients (91%) used oil for cooking in comparison to PHC group (78%) who utilized ghee (P-value<0.001).

Discussion

According to this study, a small number of patients had controlled blood pressure. The tertiary OPD patients had a better knowledge of regular medication use for hypertension as compared to patients coming to the PHC center. The patients studied were predominantly above 40 years females in both the groups which are consistent to the studies done in Saudi Arabia and America.[7,9] A large number of studied patients were either overweight or obese which is similar to other community studies in Pakistan.[10-11] Excess salt intake was correctly thought to be associated with high blood pressure in the present study, which has been proven in a study done on British Population.[12]

The tertiary OPD patients were taking antihypertensives regularly as compared to the PHC group, which took medicines for hypertension occasionally. Literature supports that although lifestyle modifications are essential for controlling hypertension, but adequate control of patients require appropriate medicines and compliance.[13] The percentage of patients regarding lifelong intake of antihypertensive medications was higher among the tertiary OPD patients and this was probably due to higher educational level. Most of the tertiary OPD patients were of the opinion that hypertension leads to cardiovascular and cerebrovascular diseases which is similar to the study done by Line Aubert and Susan.[14,15] Most of the patients were unaware of the relationship of smoking with hypertension, which is similar to other studies done in Pakistan.[16] Half of the patients in the tertiary OPD group knew that exercise decreases blood pressure as compared to the PHC group, this observation is consistent with the finding of another study done on patients attending tertiary care hospitals in Pakistan.[16]

On questioning about frequency of checking cholesterol level, more than half in the tertiary OPD group had the correct information but it was less in the PHC group. Interesting finding in this study was that greater proportion in the tertiary OPD group were of the opinion of getting their ECG regularly done but the case was opposite in the PHC group. The reason might be due to the difference in the education level in both the groups. Majority of the tertiary OPD patients had their blood sugar level assessed regularly, while a large number of OPD patients did not get blood sugar checked regularly. Analysis of the National Health Survey showed that identification of those at risk of

hypertension and diabetes should be made as obesity is a leading factor for these non-communicable diseases.[17]

The patients' regularity of visiting the doctor for the care of hypertension was not different in both the groups. The attitude of patients towards hypertension care by means of regularly checking blood pressure, adopting life style changes, that is, weight reduction and exercise was found to be significantly different in both the groups. This might be because of the misconception that these lifestyle changes have no influences on better control of BP as is shown by Aubert.[14] Patients in both the tertiary OPD and PHC group had reduced salt intake, which is proven in a study that the DASH (Dietary Approach to Stop Hypertension) diet and reduced sodium intake improves blood pressure control.[18] The tertiary OPD patients also knew that cooking oil is good for health whereas PHC patients were unaware about this.

The limitation of this study was that it mainly comprised of females, as it was conducted in morning hours when most of the male members are supposedly at their work places.

Conclusion

This comparative study of an urban middle class and a squatter settlement has shown that education may be associated with a better understanding of the disease. A relatively better knowledge regarding hypertension and its management was found in the tertiary OPD group as compared to the PHC group. More awareness campaigns and counseling sessions are required in tertiary OPD as well as in the squatter settlement.

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