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Original Research Article

Knowledge, attitude and practice of hypertension among hypertensive patients in a tertiary care teaching hospital

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ABSTRACT

Background: Hypertension is a chronic disease and an important risk factor for cardiovascular complications. The increase in prevalence of hypertension is attributed to age of population, urbanization, sedentary habits, lack of physical activity, obesity, alcohol consumption and exposure to continuous stress. Regular anti-hypertensive medications can reduce the long-term risk of cardiovascular morbidity and mortality. This study was done to assess the knowledge, attitude and practice regarding hypertension and to assess the drug compliance in hypertensive patients.

Methods: This study was a cross sectional questionnaire based, conducted among 200 hypertensive patients attending hypertension clinic (Department of Medicine) of Sri Venkateshwaraa Medical College Hospital and Research Centre, Puducherry, India from October to December 2018. A close-ended questionnaire was given to the patients, which comprised of 16 questions on knowledge (5), attitude (5) and practice (6). Data was analyzed and expressed in descriptive statistics.

Results: The commonly prescribed anti-hypertensive medications were calcium channel blockers (79%) and β blockers (26.5%). Knowledge regarding hypertension, normal BP, symptoms and complications was 74%, 54.5%, 41.5% and 37.5% respectively. Positive attitude regarding regular medications, role of drugs, diet control, salt restriction and physical activity was found in 94%, 40.5%, 74%, 76% and 67% respectively. Regular BP measurement, follow up, salt restriction and exercise were practiced by 77%, 77%, 72% and 9% of patients respectively.

Conclusions: Present study reflected a lack of knowledge among hypertensive patients regarding normal BP, symptoms and complications. A positive attitude and practice were observed among the patients except for practice of regular exercise. Hence, emphasize on awareness about symptoms, complications and importance of physical activity should be improved particularly among male patients.

Keywords: Attitude, Calcium channel blockers, Hypertension, Knowledge, Practice

INTRODUCTION

Hypertension (HTN) is a chronic disease and an important risk factor for many cardiovascular complications. It is a condition where persistently blood pressure is elevated, and clinical benefit is obtained from blood pressure lowering.[1] Hypertension is a major public health problem and a leading cause of death and disability in developing countries.[2] The prevalence of hypertension is gradually increasing worldwide but awareness, treatment and control rates are very poor. Each year, approximately 9.4 million deaths worldwide is due to the complications of hypertension.

In India, 23.1% of men and 22.6% of women over the age of 25 years suffer from hypertension.[3] Prevalence of hypertension in India is 25% in urban and 10% in rural population, leads to 57% of all stroke deaths and 42% of

deaths due to cardiovascular disease.[4] The increase in prevalence of hypertension is attributed to age, urbanization, sedentary habits, lack of physical activity, obesity, alcohol consumption and exposure to continuous stress.[5] Common complications of uncontrolled hypertension include cerebrovascular, cardiovascular, renal and retinal diseases. These complications are the primary causes of death and disability in developing countries including India and this leads to poor quality of life and increases the burden to family, community and nation.

Early detection of hypertension can minimize the risk of cardiovascular diseases, stroke and kidney failure.[5] Regular anti-hypertensive medications can reduce the long-term risk of cardiovascular morbidity and mortality. Most hypertensive people are not aware of their condition and also have a low level of health literacy regarding hypertension. Inadequate level of knowledge about the health issues has been reported among the hypertensive patients in different countries all over the world.[6,7] Their knowledge, awareness and attitude of people towards hypertension has a significant role in changing lifestyle including the modifiable risk factors of hypertension.

Therefore, the patients should be aware of the preventive approaches of hypertension management and should stringently adhere to the therapy.[6] Regular exercise decreasing systemic vascular resistance thereby blood pressure by regulatory mechanism of autonomic nervous system and renin angiotensin system. Dietary factors play a critical role in the prevention and treatment of hypertension.

DASH (Dietary approach to stop hypertension) diet can be started at younger age to avoid complications due to hypertension. Salt intake restriction and drug compliance is beneficial in hypertensive people in lowering blood pressure and its complications.[7]

Hence, this study was conducted primarily to assess the knowledge, attitude and practice (KAP) and to create awareness about hypertension among hypertensive patients. Present study also assessed the drug compliance and commonly prescribed anti-hypertensives among them.

METHODS

This study was a cross sectional questionnaire based, conducted among 200 hypertensive patients attending hypertension clinic (Department of Medicine) from October 2018 to December 2018.

Sample size was calculated using "statistics and sample size calculator" considering α error of 5%, β error of 10% and confidence interval 95% based on a previous study's correlation coefficient (30%) of knowledge-attitude score, required sample size was 195 patients which was rounded off to 200.[6] Convenient sampling technique was adopted.

The study was initiated after getting approval from Scientific Research Committee and Institutional Ethical Committee (IEC No: SVMCH/IEC/2018-Oct/07).

Inclusion criteria

Primary hypertensive patients aged 25-65 years of both gender who were on treatment for hypertension for more than 6 months, with or without co-morbid conditions like diabetes mellitus, cardio vascular disease, chronic renal disease, dyslipidemia, aneurysm etc.

Exclusion criteria

Pregnant and lactating women and secondary hypertensive patients. Patients were included in the study after obtaining written informed consent. The nature and purpose of the study was clearly explained. Confidentiality was maintained during the entire study period. Appropriate instructions for filling the questionnaire was elaborated.

An adopted, modified, close-ended, validated questionnaire translated into vernacular language was given to the patients.[3,6] The questionnaire consists of 16 questions (demographic data, Knowledge-5 questions, Attitude-5 questions, Practice-6 questions).

Data was analyzed and expressed in descriptive statistics using SPSS version 20.0 software. Questions were analyzed using a scoring system. Chi square test was used to compare demographic and clinical details with the KAP scores. P value <0.05 was considered as statistically significant.

RESULTS

In this study, out of 200 primary hypertensive patients, 40.5% were males and 59.5% were females. The demographic characteristics of hypertensive patients are depicted in Table 1.

Table 1: Demographic characteristics of hypertensive patients.

Demographic Data		Mean/percentage
Age (years)		56.6±11.2
Sex	Male	40.5% (81)
	Female	59.5% (119)
Education	Illiterate	18.5% (37)
	High school	54% (108)
	College	27.5% (55)
Employment status	Employed	60.5% (121)
	Unemployed	3% (6)
	Homemaker	36.5% (73)
Duration of disease (years)		5.9±4.9
Duration of treatment (years)		5.7±4.9

Values are expressed in mean and percentage.

The mean systolic and diastolic blood pressure was 141/90 mm/Hg. The associated comorbidities were type 2 diabetes mellitus (65.7%), coronary artery disease (19.8%), chronic kidney disease (9.2%) and bronchial asthma (5.3%). The commonly prescribed anti-hypertensive medications were as shown in Figure 1.

There was poor knowledge regarding symptoms and complications of hypertension which is represented in Table 2.

As per Table 3, a positive attitude was observed in this study. With regards to the patient's practice, a very poor physical activity was practiced as shown in Table 4.

Table 2: Knowledge related response (n=200).

Sr. no.	Question						Yes	No
1.	Do you know, what is hypertension? High blood pressure (BP) ≥140/90.						74%	26%
2.	Do you know, what is normal blood pressure level?							
	a) <120/80 30.5%	b) =120/80 43%		c) <140/90 21.5%	d) <150/90 5%		54.5%	45.5%
3.	Do you know, what are the symptoms of hypertension?							
	Headache 48%	Vomiting 1%	Dizziness 22%	Palpitation 10%	Sweating 18%	Chest pain 1%	41.5%	58.5%
4.	Do you think smoking and alcohol consumption can cause hypertension?						69%	31%
5.	Do you know, what are the complications of hypertension?							
	Heart attack 54%	Visual impairment 4%		Stroke 9%	Renal failure 33%		37.5%	62.5%

Values are expressed in percentage.

Table 3: Attitude related response (n=200).

Sr. no.	Questions	Agree	Undecided	Disagree
1.	Regular medications will improve the disease.	94%	5.5%	0.5%
2.	Drugs alone can control hypertension.	13%	46.5%	40.5%
3.	Diet will improve the condition.	74%	18.5%	7.5%
4.	Salt restriction can control hypertension.	76%	18.5%	5.5%
5.	Regular physical activity of at least 40 minutes/session for 3-4 days/week is essential to control hypertension.	67%	31.5%	1.5%

Values are expressed in percentage.

Table 4: Practice related response (n=200).

Sr. no.	Questions				Yes	No
1.	Do you measure your blood pressure regularly?					
	a) Daily 7%	b) Once a week 12%	c) Once in 15 days 24%	d) Monthly once 57%	77%	23%
2.	Do you go for regular follow up?					
	a) Once a week 9%	b) Once in 15 days 24%	c) Monthly once 57%	d) Once in 3 months 10%	77%	23%
3.	Did you ever experience any side effects due to drugs?					
	Gastritis 70%	Giddiness 20%	Vomiting 5%	Palpitation 5%	6%	94%
4.	Do you avoid extra salt in your diet?				72%	28%
5.	Do you exercise at least 40 minutes/session for 3-4 days/week?				9%	91%
6.	Do you take your drugs regularly? Reason for non-compliance:					
	Forgetfulness 40%	Financial burden 18%	Inaccessibility to treatment facility 12%	Denial of illness 30%	84%	16%

Values are expressed in percentage.

Table 5: The mean of knowledge, attitude and practice scores.

Gender	Knowledge score	Attitude score	Practice score	P value
Male (n=81)	3.12±0.5	2.76±1.39	2.96±1.28	0.81
Female (n=119)	2.52±1.72	2.69±1.41	3.42±1.02	

No significant difference between the scores of KAP between males& females (p value=0.81). Analysis was doneby Chi square test.

Table 6: Comparison of KAP scores with gender.

Gender	Knowledge about complications of hypertension	Attitude towards diet and salt restriction	Practice of regular follow-up	Practice of salt restriction
Male	50.60%	9.80%	67.90%	62.90%
Female	28.50%	24.40%	83.10%	78.10%
p value	<0.001**	<0.001**	<0.01*	<0.01*

*p <0.01, **p value <0.001. Analysis was done by Chi Square test.

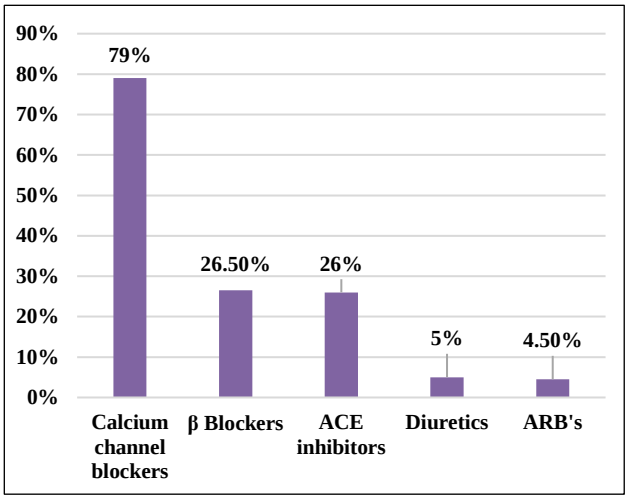

Figure 1: Commonly prescribed anti-hypertensives.

The incidence of comorbidities was significantly higher among males (p <0.001) (Table 7). Common comorbid condition was type 2 diabetes mellitus which was 20.5% and 26.5% in males and females respectively. The mean knowledge, attitude and practice scores for both males and females were given in Table 5.

Knowledge about complications of hypertension among males were significantly higher than compared to females (p <0.001). Significant positive attitude and practice of salt restriction (p <0.01) was observed among females than males. The practice of regular BP measurement and follow up among females was significantly higher (p <0.01) when compared to males (Table 6).

Table 7: Comparison of gender with comorbidities.

Gender	Comorbidity %	P value
Male	39.60%	<0.001**
Female	30.30%	

**p value <0.001. Analysis was done by Chi Square test.

DISCUSSION

Hypertension is major health problem in India and other developing countries. This study is of great importance for hypertensive patients to identify their KAP levels for development of appropriate educational and self-management programs.

In this study, 40.5% were males and 59.5% were females with higher literacy rate of 81.5%. The male to female ratio and literacy rate was comparable to the study done by Rashidi Y et al.[6] The mean systolic and diastolic blood pressure was 141/90 mmHg similar to a study done by Shrestha S et al and Durai V et al.[7,8] The common comorbid condition was type 2 diabetes mellitus which was in accordance with previous study.[7,9]

The KAP scoring elicited that this study patients had poor knowledge with regard to the symptoms and complications of hypertension. This is similar to other studies done in Northern India.[9,10] Present study also revealed that males had better knowledge about hypertension when compared to females. The symptoms and complications of hypertension were headache (48%), dizziness (22%), sweating (18%) and heart attack (54%), renal failure (33%), which is similar to Mahajan H et al.[9] Hence, educational intervention should be planned to improve patient's knowledge regarding symptoms of hypertension and its complications. A profound perception and positive attitude towards hypertension were noted in this study, which was higher in females. This finding goes in line with the studies done by Roopa KS et al.[2] In this study, author observed that 76% patient's opinion was that salt restriction can improve the condition, which was in contrast to a study done by Bhattacharya S et al, where 64% revealed that lowering salt in diet is not important at all.[11] There is consistent evidence that regular exercise of 40 minutes per session for 3-4 days per week along with diet control and salt restriction have significant part in the management of hypertension.[12]

Authors also observed that 91% of the patients did not practice regular physical activity. There was poor practice of salt restriction, dietary habits and physical activity as observed by Bhatia S et al.[13,14] This was in contrast with study done by Sabouhi F et al, which demonstrated a very good practice of regular physical activity.[15]

The practice of regular BP measurement and follow up was significantly higher in females when compared to males and 57% patients measured once a month similar to another study.[9] Adverse effects (gastritis, giddiness, vomiting and palpitation) with hypertensive medications were seen in 6% of the patients, which is similar to yet another study done by Bollu M et al (6.5%).[16]

Amlodipine (CCB) was the most commonly used anti-hypertensive drug in this study similar to a study done in North India.[17] There was an overall good drug compliance noted in this study, which was better among females as compared to males. The reason for not taking drugs regularly was mainly due to forgetfulness (40%) followed by denial of illness (30%) similar to another study.[18,19] The limitation of the study was that it is a hospital based single centered study, so these findings could not be generalized to community.

In addition, the data collection was done during working hours and this could account for the large fraction of the female respondents. Based on these observations, a good active educational intervention and counselling is recommended to improve the knowledge, attitude and practice of hypertensive patients for better disease management.

CONCLUSION

Present study reflected a lack of knowledge among hypertensive patients regarding normal BP, symptoms and complications. A positive attitude and practice were observed among the patients except for practice of regular exercise. Hence, emphasize on awareness about symptoms, complications and importance of physical activity should be improved particularly among male patients. In order to decrease the disease burden, focus on KAP of hypertensive patients by implementing well planned educational intervention is essential.

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