

A study on assessing knowledge & awareness on non-pharmacological measures for treating hypertension in hypertensive patients in India

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Abstract

Objective: This study was aimed at assessing the patient's knowledge and awareness about hypertension among hypertensive patients. **Method:** This was a cross-sectional descriptive study conducted among 280 randomly selected hypertensive patients. **Results:** 82.85 % patients knew that salt restricted diet and lifestyle change may help to help to control blood pressure. 77.85% patients knew the role of fatty food and junk food in aggravating hypertension. Patients had less knowledge and awareness regarding hypertension may run with family history (21.42%), tobacco product consumption have adverse role in hypertension (24.28%). 43.21 % have knowledge regarding role of Meditation to control hypertension. 24.28 % believed only medication could reduce blood pressure. **Conclusion:** Steps to improve health education and health promotion specifically on modifiable risk factors and awareness of hypertension measures have to be made by the policy makers on a large scale.

Key Word: Non pharmacological, Hypertension, knowledge, Awareness.

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INTRODUCTION

Hypertension is a very common disorder, particularly past middle age. It is not a disease itself, but it is an important risk factor for cardiovascular mortality and morbidity. The cut-off manometric reading between normotensives and hypertensive is arbitrary. Almost all hypertension management guidelines including NICE (2011), JNC8 (2014), WHO-ISH (2003), European society of Hypertension (2007, 2013) define cut-off level to be 140 mmHg systolic and 90 mmHg diastolic. Majority of cases are of essential hypertension¹Hypertension is a major public health burden and is part of an epidemiological transition from communicable to non communicable

diseases globally². It is an important risk factor for stroke, coronary heart diseases, peripheral vascular disease, heart failure, and chronic kidney disease².The aging, urbanization, sedentary lifestyle, obesity, ethanol consumption, and excess salt intake are the contributing factors for epidemiological transition of hypertension in world³. Hypertension is the most important risk factor for chronic disease burden in India. Studies from various parts of India have reported high prevalence of hypertension. These studies have also reported that hypertension is increasing and there is low awareness and control.⁴ Global Burden of Diseases study reported that hypertension led to 1.63 million deaths in India in 2016 as compared to 0.78 million in 1990 (+108%). The disease burden (DALYs) attributable to hypertension increased from 21 million in 1990 to 39 million in 2016 (+89%). The number of adults with hypertension in 2025 was predicted to increase by about 60% to a total of 1.56 billion (1.54–1.58 billion).⁵Age-adjusted mortality from these conditions has increased by 31% in last 25 years. Case-control studies have reported that hypertension is most important risk factor for CVD in India.⁵Social determinants of hypertension are important and Indian states with greater urbanization, human development and social development have more hypertension.⁴Various

studies noticed close to a two-fold increase in risk for HTN among Indians when they smoked^{6,7}, orally consumed khaini and tobacco⁹, had extra salt intake in their food⁹, had a sedentary lifestyle¹⁰, were centrally obese^{6,9}, had BMI at least 25^{6,11}, and consumed alcohol^{9,10}. Many studies have underlined the relationship existing between factors such as physical activity, body weight, diet composition, coffee drinking, dietary fat, and high blood pressure. Similarly, there is a large body of experimental evidence showing that lifestyle changes can favourably affect blood pressure and reduce cardiovascular risk.¹² A cost-effective use of health services such as increasing the knowledge and awareness, detection, treatment, and control of hypertension (HT) is needed among public in developing countries, particularly about the risks associated with uncontrolled blood pressure.¹³

Table 1: Lifestyle changes to reduce blood pressure¹²

Strong evidence, highly effective	Good evidence, effective
Weight reduction, Reduction in salt intake, Physical activity	Increase in potassium intake, Reduction in alcohol intake, Increase in olive oil consumption, Reduction in coffee intake, Increase in fibre intake

This study was aimed at assessing the patient’s knowledge and awareness about hypertension among hypertensive patients.

MATERIAL AND METHOD

This was a cross-sectional descriptive study conducted among population of Bhavnagar, Gujarat, India. Total 280 randomly selected hypertensive patients attending the

RESULT

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Table 1: Knowledge and awareness regarding non pharmacological measures regarding hypertension among hypertensive patients

No	Questions	Answers from responders			score
		Incorrect (score 1)	Not sure (score 2)	Correct (score 3)	
1	Normal level of blood pressure is 120/80 mmHg	12 4.28%	176 62.85%	92 32.85%	2.28
2	Hypertension can progress along with the age	52 18.57%	156 55.71%	72 25.71%	2.07
4	Risk of developing hypertension is high if family history of hypertension	82 29.28%	148 52.85%	60 21.42%	1.99
3	Hypertension is a treatable condition	12 4.28%	56 20%	212 75.71%	2.71
10	Medication alone helps in controlling hypertension	30 10.71%	182 65%	68 24.28%	2.13
5	Tobacco product are risk factors for hypertension	58 20.71%	154 55%	68 24.28%	2.02
6	Eating fatty & junk foods is risk factor for hypertension	24	38	218	2.69

general medical clinics were included in this study; we hope that the knowledge, awareness and lifestyle practices of the community will be represented in the study. The eligible respondents were selected by systematic randomized controlled sampling method. Hypertension Fact Questionnaire was designed as a tool, using the existing literature to assess the knowledge and awareness regarding risk factors and non-pharmacological measures among the hypertensive patients. A validated questionnaire initially designed in English and then translated to local Gujarati language was used to collect the data. The questionnaire consisted of 13 closed-ended questions designed to assess the respondents’ awareness and knowledge of non-pharmacological measures for Hypertension. The response choices for each of the questions were categorised as ‘incorrect’, ‘not sure’ and ‘correct’. One, most appropriate answer was required for each question. The answers were given the scores of 1, 2 and 3, respectively. The questionnaire was also comprised of socio-demographic data such as age, gender, area of residence, education level, literacy, occupation. In this study, literacy is defined as the ability of people who can with understanding, read and write a short, simple statement in local language. Prior to the data collection, the respondents received explanations regarding the purpose of the study, and informed consent was obtained from the eligible respondents. The questionnaire was administered through face-to-face interviews to ensure that the respondents understood the questions without answers being prompted. After the interview sessions, the questionnaires were collected by the researchers and the data were analysed statistically.

		8.57%	13.57%	77.85%	
7	Overweight is a risk factor for hypertension	30	48	202	2.61
		10.71%	17.14%	72.14%	
8	Regular physical exercise reduces hypertension	28	121	131	2.36
		10%	43.21%	46.78%	
9	More salt consumption increases blood pressure	20	28	232	2.75
		7.14%	10%	82.85%	
11	Hypertension can lead to life-threatening condition	9	73	198	2.67
		3.21	26.07%	70.71%	
12	Changing your lifestyle helps to lower blood pressure	14	34	232	2.77
		5%	12.14%	82.85%	
13	Meditation helps to lower blood pressure	98	61	121	2.08
		35%	21.78%	43.21%	

Tables no 1 showing results of the knowledge and awareness of on hypertension among 280 hypertensive patients. 82.85% patients knew that salt restricted diet and lifestyle change may help to help to control blood pressure. 77.85% patients knew the role of fatty food and junk food in aggravating hypertension. 75.71% patients agreed that hypertension is treatable condition. 72.14% patients considering the fact that overweight is a risk factor for hypertension. Patients had less knowledge and awareness regarding hypertension may run with family history (21.42%), tobacco product consumption have adverse role in hypertension (24.28%). 43.21% have knowledge regarding role of Meditation to control hypertension. 24.28% believed only medication could reduce blood pressure.

Table 2: knowledge and awareness score in correlation with demographic variation

No.	Variable	No of responders (%)	Knowledge Score mean
1	Age Group	< 50 years	123 (43.92%)
		>50 years	157 (56.07%)
2	Gender	Male	178 (63.57%)
		Female	102 (36.42%)
3	Place of residence	Urban	204 (72.82%)
		Rural	76 (27.14%)
4	Educational level	literate	202 (72.82%)
		Illiterate	78 (27.82%)
5	Occupation	Business & Service	146 (52.14%)
		Farmer & Labour work	134 (47.85%)

Table 2 showing knowledge and awareness according to demographic variable. Knowledge score observed higher in male, age less than 50 years, urban population, with higher education level & occupation as business or service.

DISCUSSION

Hypertension remains a challenging medical condition among the non communicable diseases of ever growing population. Efforts to control HT include increasing public knowledge and awareness about the risks associated with high BP. We conducted this cross-sectional descriptive survey to evaluate the current status of hypertension knowledge, awareness among group of hypertensive patients. The National High Blood Pressure Education Program was launched to improve the public's knowledge of HT in 1972¹⁴. Data from the National Health and Nutrition Examination Survey (NHANES II and NHANES III) reported an increase in BP awareness during the time period 1976–1991 from 51% to 73%¹⁵. Some other studies have assessed HTN knowledge and awareness in the general population¹⁶ and hypertensive population¹⁷ showing a decreased level of knowledge and awareness. Birger Gran et al¹⁸ in his study observed that use of anti-hypertensive drugs was reduced by 55% in the

participants, with the defined daily dose (DDD) being lowered from 1.18 to 0.55 ($P < 0.001$). At the end of the study, 46% of the participants were free from anti-hypertensive drugs. Increased physical exercise, weight reduction, low-sodium and low-fat diet, relaxation training, and home-monitoring of blood pressure were the most popular methods. Ramsay LE et al¹⁹ stated in his study that When non-pharmacological measures are implemented as a first step in the treatment of mild hypertension, resorting to drug therapy only if non-pharmacological measures fail, anti-hypertensive drugs can be avoided in about 40% of patients. A variety of dietary modifications are known to be beneficial in the treatment of hypertension, including reduction of sodium intake; moderation of alcohol intake; weight loss in overweight or obese individuals; and a diet rich in fruits, vegetables, legumes, and low-fat dairy products, and also low in snacks, sweets, meat, and saturated fat. Individual dietary factors may also be helpful in lowering blood

pressure²⁰ Non-communicable diseases are important causes of mortality and morbidity in India. Data from the Registrar General of India, World Health Organization and Global Burden of Disease (GBD) Study have reported that cardiovascular diseases (CVD) are the most important causes of death and disability.²¹ Intensive public health effort is required to increase its awareness, treatment and control. UN Sustainable Development Goals highlight the importance of high rates of hypertension control for achieving target of 1/3 reduction in non-communicable disease mortality by 2030. It is estimated that better hypertension control can prevent 400-500,000 premature deaths in India.²¹

CONCLUSION

Hypertension presents a major area of intervention because it is amenable to control through both non pharmacological lifestyle modification and medications. Lifestyle interventions have pivotal role in reducing the number of medications among hypertensive patients and preventing the risk of developing hypertension among normal population. In view of these findings, steps to improve health education and health promotion specifically on modifiable risk factors and awareness of hypertension measures have to be made by the policy makers on a large scale. Existing interventions should look at incorporating multi component and multilevel approaches for better managing hypertension among Indians.

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