Awareness and Practices of Non-Pharmacological Approaches for Management of Hypertension in a Geriatric Population

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Abstract

Background: There is an increase in the prevalence of hypertension all over the world, including India. Hypertension can be initially managed with non-pharmacological measures. This study aims to assess the knowledge of non-pharmacological measures to control hypertension and its application in a geriatric hypertensive population. **Methods:** The study was conducted at the Department of Physiology, SVU, Vadodara, India. A total 110 hypertensive patients were included in the study and a non-validated survey was conducted to examine knowledge of non-pharmacological measures to control hypertension in this group of patients. Frequencies, percentages, means and standard deviations were calculated and reported. **Results:** Only 10% of the respondents knew the normal values for blood pressure. Approximately 38% of the subjects did not measure their blood pressure regularly. A total of 24% subjects knew that body weight has a correlation with hypertension. About 27% said that there was no correlation between salt intake and hypertension, and 88% of the study population did not carry out any form of physical activity. **Conclusion:** Hypertension can be controlled by life style modifications such as exercise, weight management and a healthy diet. Public health and education measures targeting hypertensive population need to be taken to decrease the risk factors for cardiovascular diseases and, therefore, improve people's health and quality of life.

Keywords: Hypertension; Health Knowledge, Attitudes, Practice; Exercise; Geriatric Assessment (Source: MeSH-NLM).

Introduction

Hypertension (HTN) is a chronic disease which is independently associated with cardiovascular diseases in the elderly. It constitutes one of the most frequent risk factors for cerebrovascular diseases.[1-3] Hypertension is a major public health problem in many parts of the world.[4,5] Known as "the silent killer.", it may exist for prolonged periods without symptoms and may manifest only after causing serious complications. It has been identified as the most common, most potent and most universal contributor to cardiovascular mortality, which accounts for 20-50% of all deaths.[6]

Assessment of knowledge, attitudes and practices is a critical aspect of hypertension control. Limited information is available from developing countries regarding this aspect of hypertension control, despite the fact that hypertension has been implicated as a major health problem in these countries.[7]

Blood pressure can be controlled not only with medications but also with non-pharmacological management strategies such as exercise, weight reduction, salt restriction, and fruit and vegetable consumption. These non-pharmacological measures play an important role in the management of hypertension. The present study was conducted to assess the knowledge of non-pharmacological measures to control hypertension and its application in a geriatric hypertensive population.

Methods

This is a cross-sectional questionnaire based study. It was carried out from October to December 2013 at the Department of Physiology, S.B.K.S Medical Institute and Research Centre, Vadodara, India.

A non-validated self-administered questionnaire was prepared consisting of 10 questions in the local language (Gujarati) to assess knowledge, attitude and practice among the subjects about non-pharmacological measures to control hypertension.[8] These were closed questions with a YES/NO response.

Subjects more than 50 years of age of either gender with a history of hypertension who were willing to participate and give consent were included. The exclusion criterion was refusal by the subject to sign the informed consent form.

The protocol was explained to the subject and written informed consent was obtained. A detailed clinical history was collected through face-to-face interviews, while blood pressure readings were obtained using a sphygmomanometer.

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Data analyses were performed with Microsoft Office Excel®. Frequencies and percentages were reported for categorical variables, while means and standard deviations (SD) were presented for quantitative variables.

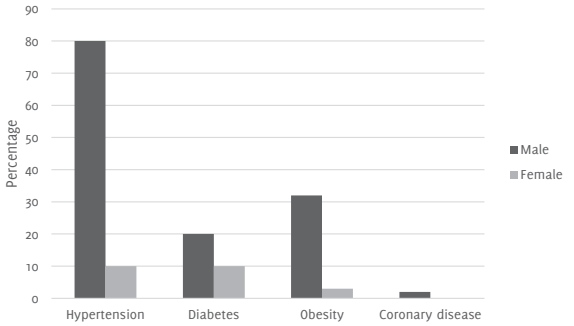
The study protocol was approved by the Sumandeep Vidyapeeth Institutional Ethics Committee (SVIEC) and the Committee for the Purpose of Human Research Review Panel (HRRP) of the Sumandeep Vidyapeeth University (ethical approval code: SVIEC/ON/medi/BNPG-12/D13376). The reporting of this study follows the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement for cross-sectional studies.[9]

Results

A total of 120 questionnaires were distributed to hypertensive individuals who fulfilled the inclusion criteria. Of these, 110 completed questionnaires were submitted, corresponding to a response rate of 92%. The mean age of the subjects was 56.7±1.2 (SD) years. The study respondents consisted of 91 males and 19 females.

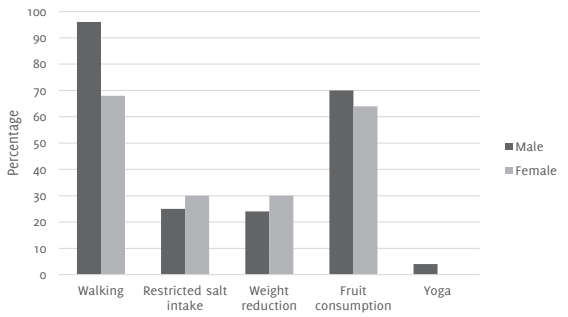
Out of the 110 respondents interviewed, 84% were suffering from hypertension, 32% were suffering from diabetes mellitus along with hypertension, 33% were suffering from obesity along with hypertension and diabetes mellitus and 2% were suffering from coronary heart disease with hypertension (***Figure 1***).

Figure 1. Percentage of Male and Female Subjects Suffering from Different Diseases.



About 94% male and 68% female subjects controlled blood pressure by walking. About 26% male and 31% female hypertensive subjects said that they had reduced salt intake to control hypertension. About 22% male and 31% female subjects tried weight reduction, and 69% male and 63% female hypertensive subjects took fruits in appropriate amount to control hypertension. Finally, 3% male subjects controlled hypertension by practicing yoga regularly (***Figure 2***).

Figure 2. Percentage of Practice for Control of Hypertension in Both Male and Female Subjects of the Study.



Only 10% of the respondents knew the normal range of blood pressure. About 62% of hypertensive subjects reported measuring their blood pressure regularly. Approximately 85% of the subjects used anti-hypertensive medications. Only 27% of the respondents were aware of the correlation between salt intake and hypertension. Approximately 24% of the subjects agreed that body weight is correlated with hypertension and weight reduction could, therefore, help with hypertension control. About 68% subjects took fruits in appropriate amount to control hypertension. History of smoking was positive in 74% of the male subjects. While history of tobacco consumption was positive in 53% of the male subjects none of the female subjects reported a history of tobacco consumption. Up to 90% subjects doing walking regularly. Only 12% patients practiced yoga and/or meditation regularly (***Table 1***).

Table 1. Knowledge and Practice of Non-Pharmacological Approaches to Hypertension Management among Subjects.

Type [n=110]	Follower [%]
Knowledge of normal values of blood pressure	10
Regular check-up of blood pressure	61.8
Taking anti hypertensive drug	85.5
Restricted salt intake	27.2
Weight reduction	23.6
Fruit consumption	68.1
Smoking	74.5
Tobacco consumption	52.7
Walking	90
Yoga, meditation	11.9

Discussion

There is an increase in the prevalence of hypertension in the past few years. Hypertension can be controlled with drugs along with some non-pharmacological measures. The present study assessed knowledge of non-pharmacological measures to control hypertension in adult hypertensive patients. Findings from previous studies showed that half of the population was aware of the correlation between salt intake and blood pressure.[8-11] The majority of population did not know about the correlation between blood pressure and body weight.[12,13] The most important non-pharmacological therapy consists of a hygienic behavioral program aimed at changing the patient's lifestyle.[14] The nutritional and behavioral measures recommended in the management of high blood pressure improved the patients' general health status, as they also have a beneficial effect on other cardiac risk factors frequently associated with hypertension.[15] Impaired baro reflex sensitivity has been increasingly postulated to be one of the major causative factors of essential hypertension. A short period (3 months) of regular yogic practice for 1 hour/day is effective in controlling blood pressure in such individuals.[16]

Knowledge and practice of non-pharmacological strategies to manage hypertension were less than optimal in our study population. Hypertensive patients should be advised to stop smoking and tobacco consumption, reduce salt intake, and consume a diet rich in fruits and vegetables, such as banana, unsalted sunflower seeds, spinach, beans, baked white potato,

and soybean. Eating about 30 calories a day of dark chocolate could also reduce blood pressure without any adverse effect, although this option is not preferable for overweight people due to the high caloric content of chocolate.[17] Physical activities like yoga and daily walking could help in the reduction of both blood pressure and body weight.

The present study has a few limitations. Only patients with a systolic blood pressure higher than 160 mmHg and aged 50 years or older were included in this study; therefore, our findings may not be generalizable to other patient populations.

Knowledge and practice regarding body weight, smoking tobacco, salt intake, fruit and vegetable intake, yoga and physical exercise, and their roles in the management of hypertension were satisfactory in this study population. Further large scale studies need to be undertaken to obtain a clearer picture of the level of hypertension in the geriatric population. Training programs should be recommended to develop the necessary skills needed for optimal non-pharmacological management of hypertension.

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