



INTERVIEW-BASED STUDY ON KNOWN HYPERTENSIVES LIVING IN A METROPOLITAN CITY

Physiology

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ABSTRACT

This cross-sectional interview-based descriptive study was conducted using an online questionnaire to determine the profile of 65 urban-dwelling patients (20 females: 30.77% and 45 males: 69.23%) currently on prescribed anti-hypertensive medication. The mean age was 47.35 $\pm$ 10.36 years and 48.24 $\pm$ 11.72 years for females and males, respectively. The gender differences in marital status ($Z=0.142$; $p=0.888$), religion ($Z=1.195$; $p=0.230$) and urban schooling ($Z=0.575$; $p=0.561$) were not significant. Significant gender differences were observed in level of education ($Z=2.928$; $p=0.003$) and occupation ($Z=4.195$; $p<0.0001$), outdoor exercise ($Z=2.194$; $p=0.028$), abstinence from alcohol ($Z=3.555$; $p=0.003$); regular follow-up for hypertension ($Z=2.033$; $p=0.042$) and self-checking of blood pressure ($Z=2.608$; $p=0.009$). This study highlighted some behavioural risk factors in the study population. Regular mass screening campaigns would be required for detecting hypertension in communities.

KEYWORDS

Behavioural risk factors, High blood pressure, Hypertension, Urban area

INTRODUCTION

India is experiencing a swift epidemiologic transition typified by an increased prevalence of non-communicable diseases (NCDs). [1] While still struggling with a high burden of infectious diseases and maternal and child health problems, India is experiencing a rapid increase in prevalence of NCDs. [2] Between 1975 and 2015, the prevalence of hypertension decreased in many high-income countries, but it increased in most low-income and middle-income countries. [3] South India has higher mortality due to coronary heart disease (CHD), eastern India has higher stroke rates, while CHD prevalence is higher in urban India. [4]

Tackling four key behavioural risk factors (viz. physical inactivity, unhealthy diet, tobacco use, and alcohol consumption) can prevent a significant proportion of non-communicable diseases. [1] The reluctance in adopting healthy lifestyles for preventing non-communicable diseases is primarily because of attitudes, beliefs and social customs. [5] People are not deterred from indulging in fried salty foods, consumption of tobacco and alcohol and avoiding physical exercise because these activities offer instant pleasure and the adverse health outcomes due to non-communicable diseases are delayed. [5] Moreover, the adverse health outcomes do not occur in all individuals with a non-healthy lifestyle. A systematic review and meta-analysis of Indian studies on hypertension has reported that the awareness levels for hypertension were consistently above 35% in almost all studies from urban areas. [6] Though most people had enough knowledge about healthy lifestyle, only a few were motivated and very few actively engaging in a new behaviour. [7]

The risk factors for hypertension include: age at least 35 years, [8] sedentary life style, [9] upper socio-economic status, [10] married status, [10] alcohol consumption, [11, 12] tobacco consumption, [8, 12, 13] central obesity (waist circumference: >90 cm in men and >80 cm in women), [8, 13-15] body mass index (BMI) at least 35 kg/m^2 , [11, 15] waist-hip ratio >0.88 , [12] dyslipidaemias (high serum levels of cholesterol and triglycerides), [13] high fat diet, [13] metabolic syndrome [13] and diabetes mellitus. [13, 16]

Though high dietary sodium intake is a reported risk factor, [12, 17] not all people with high dietary sodium intake will develop hypertension. Some people who are "sodium non-sensitive" can effectively excrete excess dietary salt without an increase in arterial blood pressure, while others who are "sodium sensitive" cannot do so. In persons with "sodium sensitivity", sodium salts would have a greater effect on increasing blood pressure. "Sodium sensitivity" is more marked in patients with severe hypertension, people with a family history of arterial hypertension, obese patients, people of African ancestry, in the

elderly and those with hyper-aldosteronism. [18] Sleep deprivation, insomnia, obstructive sleep apnoea and sleep disruption due to restless legs syndrome increase the odds of having hypertension. [19]

The purpose of the present study was to determine the profile of urban-dwelling known hypertensives currently on prescribed medication.

MATERIAL AND METHOD

This interview-based descriptive study was conducted among adults of either gender, who were known hypertensives, taking prescribed medication for at least one year preceding the study. The data collection tool was a pre-tested and pre-validated questionnaire, which was administered online via Google forms. Informed consent was taken on the Google forms. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). Percentages of responses, standard error of difference between two proportions and the standard error of difference between two means were calculated. 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error] – [Mean+(1.96)* Standard Error]. The statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

There were a total of 65 respondents (20 females: 30.77% and 45 males: 69.23%).

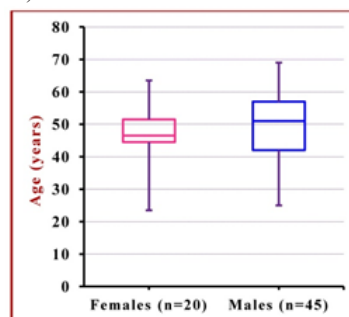


Fig-1: Box Plot Of Age Distribution

Table-1: Lifestyle And Morbidity-related Parameters

Parameter	Females (n=20)	Males (n=45)	Z value	'p' value
Daily exercise	05 (25.0%)	14 (31.11%)	0.500	0.617
Exercise in Gym	01 (05.0%)	04 (08.89%)	0.543	0.589

Outdoor exercise	04 (20.0%)	22 (48.89%)	2.194	0.028 *
Co-morbidity: Diabetes	04 (20.0%)	10 (22.22%)	0.201	0.841
Co-morbidity: IHD	04 (20.0%)	14 (31.11%)	1.823	0.068
Never used tobacco	20 (100.0%)	42 (93.33%)	1.182	0.238
Never used alcohol	19 (95.0%)	22 (48.89%)	3.555	0.003 *
Frequent headaches	02 (10.0%)	0 (0.00%)	2.154	0.031
Frequent temper loss	02 (10.0%)	08 (17.78%)	0.802	0.423
Treatment from specialist	10 (50.0%)	28 (62.22%)	0.922	0.357
Follow-up regular	10 (50.0%)	11 (24.44%)	2.033	0.042 *
Self-check BP	11 (55.0%)	10 (22.22%)	2.608	0.009 *

Z = Standard error of difference between two sample means; *Significant;

IHD = Ischaemic heart disease; BP = Blood pressure;

The mean age was 47.35 +/- 10.36 years (95% CI: 42.81 – 51.89 years) and 48.24 +/- 11.72 years (95% CI: 44.82 – 51.67 years) for females and males, respectively. The maximum age, third quartile, median and minimum age was lower for females, as compared to males, but the first quartile of age was lower for male respondents (Fig-1). In a community-based urban study on 1,432 participants, the prevalence of hypertension was found to be 13.90% (females: 18.95% and males: 9.52%), with a multi-modal age distribution. [16] The gender differences in marital status ($Z=0.142$; $p=0.888$), religion ($Z=1.195$; $p=0.230$) and urban schooling ($Z=0.575$; $p=0.561$) were not significant. However, significant gender differences were observed in level of education ($Z=2.928$; $p=0.003$) and occupation ($Z=4.195$; $p<0.0001$).

Females outnumbered their male counterparts in non-consumption of alcohol and in self-care (Table-1). Significant gender differences were observed in outdoor exercise ($Z=2.194$; $p=0.028$), abstention from alcohol ($Z=3.555$; $p=0.003$); regular follow-up for hypertension ($Z=2.033$; $p=0.042$) and self-checking of blood pressure ($Z=2.608$; $p=0.009$).

CONCLUSION

This study has highlighted certain behavioural risk factors in the study population. But the findings cannot be considered as being representative of the urban population because the study was conducted using an online questionnaire. Regular mass screening campaigns would be required for detecting hypertension in individuals who have limited access to health services. There were significant gender differences in outdoor exercise, abstention from alcohol, regular follow-up for hypertension, self-checking of blood pressure.

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