Original Article

HYPERTENSION AMONG ELDERLY IN SLUM: A NEGLECTED ISSUE

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ABSTRACT

Introduction: Hypertension is an important public health problem worldwide. Hypertensive has higher risk of developing coronary artery disease; cerebrovascular disease and stroke.

Objectives: The objective was to study the prevalence of hypertension and its associated risk factors and awareness regarding hypertension in urban slum

Materials and methods: A Cross Sectional study was carried out amongst people with age 60 years in an urban slum of Pune. Total 125 subjects, selected by Systematic random sampling, were interviewed for data collection by means of pre tested questionnaire and blood pressure of study subjects was measured by mercury sphygmomanometer.

Results: The mean age of the study participants was 64.93(+ 5), 32% were male and 27% were illiterate. The prevalence of hypertension among elderly people was 55%, out of which 21% were unaware of their hypertensive status. BMI >25 was associated with hypertensive's (OR 2.4 (1.1-5.04)). However, variables like sex, alcohol, tobacco were not associated with hypertension. Awareness among study subjects was very low.

Conclusion: One in every two elderly persons is suffering from high blood pressure and is unaware of their status. Primary prevention towards younger population and secondary & tertiary prevention towards elderly should be fastened. At the same time awareness campaign should be carried out particularly for slum target population.

Key words: Hypertension, elderly, slum, awareness, prevalence

INTRODUCTION

Hypertension is becoming an important public health problem worldwide. Subjects with hypertension are known to have a two-fold higher risk of developing coronary artery disease (CAD) and seven times higher risk of cerebrovascular disease and stroke compared to normotensive subjects[1].

Cardiovascular diseases are the number one cause of death globally. They account for approximately 17 million deaths in the world each year. Hypertension account for more than nine million of these deaths including about half of all deaths from heart disease and stroke. More than one in three adults worldwide have high blood pressure, with the proportion going up to one in two for people aged 50 and above. The number of people with high blood pressure rose from 600 million in 1980 to 1 billion in 2008. Behind the statistics is a silent killer that can affect anyone; people often have no symptoms, and many are not even aware of their high blood pressure and the associated health risks. The result is that many go undiagnosed[2].

The size of the elderly segment of the population is increasing in developing countries as the latter have undergone demographic transition, with a concomitant increase in life expectancy[3,4]. However, only a few of the studies included elderly people, and fewer have focused exclusively on this segment of the population.

Hence the current study was undertaken with an aim to find the prevalence of hypertension amongst elderly population in urban slum setting and also to study the associated risk factors for the same. Awareness of the study subjects regarding hypertension was also studied.

MATERIALS AND METHODS

A Cross Sectional study was carried out amongst people with age 60 years and above residing in an

urban slum area of Pune. The study was conducted during Dec 2012. Inclusion Criteria was people in the age group 60 years and above who were permanent residents and gave consent to participatein the study. Sample size was calculated based on old study[5]. Taking the hypertension prevalence as 65% with error of margin 9% the sample size calculated was 112, but however we included 125 subjects. Since the slum was recently adopted and population composition was known, systematic random sampling was used to select the sample size.

A written informed consent was taken from all and data was collected by means of structured questionnaire which included demographic details, anthropometric measurements and other outcome variables. The questionnaire was translated into Hindi and Marathi and back translated to english and was pretested. For diagnosing hypertension the blood pressure of study subjects was measured by using mercury type sphygmomanometers. For all study subjects BP was measured twice and an average of the two readings was taken. Criterion for labeling a person as hypertensive was as per JNC-7 guidelines and was taken as ≥140 mmHg systolic & ≥90 mmHg diastolic[6]. Weight of the study subjects was measured using a platform type weighing scale and the same was validated before use to an error margin of 50gm. Stadiometer was used to measure the height.

Personal history regarding tobacco use and alcohol use were recorded. Obesity was assessed by calculating Body Mass Index (BMI) using formula (wt in kg divided by ht in meter square). Elderly with BMI ≥25 were classified as overweight. Data entry and statistical analysis were performed using the Microsoft Excel and Epi Info software.

RESULTS

The prevalence of hypertension in urban slum among elderly people was 70 (56%) (CI: 47%-64%). Among hypertensive's 21% of the subjects were unaware about their hypertension status. The Mean systolic Blood pressure among study subject was 146.53+21mmHg and the mean diastolic BP was 86+8 mmHg.

Table 1: Socio Demographic status of the study participants

Variables	Values
Age in Years	
Mean± SD	64.9±5.0
Median	64
Gender	
Male	85(68%)
Female	40(32%)
Education	
Illiterate	34(27.2%)
Literate	91(72.8%)
Diabetes	
Yes	47(37.6%)
No	78(62.4%)

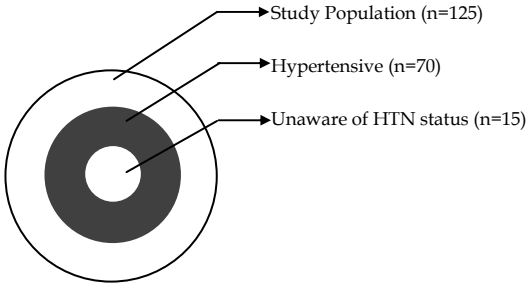

Fig : 1 Prevalence of Hypertension

Table-2 Risk factors of hypertension in the study population (Univariate odds ratio)

Risk factors		Hypertension*		Individual	Hypertension %	OR (95%CI)	P-value
		Yes	No				
Sex	Male	45	40	85	68%	0.6 (0.3-1.4)	0.3
	Female	25	15	40	32%		
BMI	>25	40	21	61	48.8%	2.4 (1.1-5.04)	0.01
	<25	28	36	64	51.2%		
Tobacco	Yes	35	24	59	47.2%	1.45 (0.7-2.9)	0.2
	No	33	33	66	52.8%		
Alcohol	Yes	18	11	29	23.2%	1.44 (0.6-3.3)	0.3
	No	51	45	96	76.8%		
Salt intake	>5gm/day	50	25	75	60%	2.3 (1.12-4.8)	0.02
	<5gm/day	23	27	50	40%		

*cases are hypertensive subjects with SBP ≥ 140 and/or DBP ≥ 90 or on antihypertensive medication, controls are normotensive subjects with SBP < 140 and DBP < 90

We studied the association of various risk factors like sex, overweight, tobacco, alcohol and salt intake for hypertension. The odds ratio for Hypertension with BMI and salt intake (>5 gm/day) in urban slum was 2.4 (CI-1.1-5.04) and 2.3 (1.12-4.8) respectively and was statistically significant (Table 1) while with other risk factors like sex, tobacco and alcohol intake it was not statistically significant.

Awareness among study subjects was very low. 38% of the urban slum study subjects didn't knew what

hypertension means and 56% were not aware about the risk factors & 54% of urban slum study subjects were not aware about complications of hypertension.

Table 03: Knowledge regarding Hypertension, Risk factors and complications

Knowledge regarding	No	Yes
HTN meaning	38%	62%
Risk factors	56%	44%
Complication	54%	46%

DISCUSSION

Hypertension is a common health problem in developing countries and prevalence is currently raising steadily[7]. The prevalence of hypertension among the aged people above 60 years was 56% in this study. The hypertension study group bulletin of the world health organization also shows the same results in urban part of the Maharashtra[5]. One of the study done in Kolkata also showed prevalence of hypertension among elderly above 60 years was more than 50%[8]. Among hypertensive's 21% of the study subjects are not aware of their condition and this finding is comparable with other study findings[9,10]. These unaware hypertensive subjects suddenly end up with more complications which become difficult to manage posing a significant public health problem.

The mean systolic BP among the study subject was 146.53+22mmHg, and the mean diastolic BP was 86+8 mmHg which is in line with other similar studies[11]. In our study BMI (Overweight/ Obesity) is significantly associated with hypertension which in line with study carried out by Krzysztof narkiewicz who concluded that obesity is an independent risk factor for the development and progression of hypertension, cardiovascular disease and chronic kidney disease[12]. Holly Karmer in their studies also concluded that the obesity is number one risk factor for hypertension, type 2 diabetes and chronic kidney disease

CONCLUSION AND RECOMMENDATIONS

Among the elderly people above 60 years of age the prevalence is more than half, it means that among every two persons one person is suffering from high blood pressure and more over 21% of the hypertensive subjects are unaware that they are suffered from hypertension. Despite increase in prevalence the study reveals low level of awareness regarding the disease and the high prevalence of risk factors among study subjects.

In view of above primary prevention towards younger population and secondary & tertiary prevention towards elderly should be fastened. At the same time awareness campaign should be carried out particularly for slum target population.

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