



A CROSS-SECTIONAL STUDY OF HYPERTENSION AMONG EMPLOYEES WORKING IN MSRTC AND SOCIAL WELFARE OFFICE IN A CITY OF WESTERN MAHARASHTRA

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ABSTRACT

Introduction: Hypertension is one of the major risk factors for cardiovascular mortality, which accounts for 20-50 % of all deaths. An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries. **Objectives:** 1) To estimate the magnitude of hypertension among employees working in MSRTC and Social Welfare Office 2) To determine factors associated with hypertension among these employees. **Methodology:** A Cross-sectional study was conducted in Maharashtra State Road Transport Corporation (MSRTC) and Dept. of Social welfare in a city of Western Maharashtra. Data was collected through personal interview in a health camp at their respective offices organised by Government Medical College, Solapur. **Results:** In present study there were total 154 participants. The overall magnitude of hypertension was 45.46 %. There is statistical association between gender & age and hypertension. **Conclusion:** Magnitude of hypertension in these workers was very high.

KEYWORDS : Government employees, Hypertension, Obesity, Sedentary Lifestyle, Lifestyle Modification

INTRODUCTION

India, a lower middle-income country, is undergoing a rapid epidemiologic transition, characterized by an increased prevalence of noncommunicable diseases. In 2019, Globally, stroke was the second-leading cause of death after ischaemic heart disease ⁽¹⁾. According to NFHS-5 non-communicable diseases (NCDs) account for 65 percent of all deaths in India ⁽²⁾.

Hypertension is a major independent risk factor for coronary artery disease, stroke, heart failure, and renal failure ⁽³⁾. An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries ⁽⁴⁾. According to NFHS-5 21% of women and 24% of men age 15 years and over have hypertension. 39% of women and 49% of men age 15 years and over are pre-hypertensive ⁽⁵⁾. It has been estimated that a 2 mm of Hg population wide decrease in systolic blood pressure in India, would prevent 151,000 deaths due to coronary artery disease and 153,000 deaths due to stroke would be prevented ⁽⁵⁾.

According to WHO Hypertension is diagnosed if, the systolic blood pressure readings is ≥ 140 mmHg and/or the diastolic blood pressure readings is ≥ 90 mmHg ⁽⁴⁾. There are various risk factors of hypertension. Modifiable risk factors for hypertension are dietary factors, obesity, alcohol consumption, physical inactivity, sustained stress and social determinants like globalization of unhealthy lifestyles, urbanization, economic condition, social status etc. Non-modifiable risk factors include age, sex and genetic factors ⁽⁶⁾. There is compelling evidence that physical inactivity is responsible for a large proportion of coronary heart disease and type II diabetes, and hypertension ⁽⁷⁾. Decreased physical activities coupled with increased mental tension are important contributors of hypertension. They are commonly seen amongst employees of the profession where working is mostly sedentary ⁽⁸⁾. Employees working in MSRTC and Social Welfare Office fit in this picture and that is why the present cross-sectional study was carried out in these employees to estimate the magnitude of hypertension among them and the effects of sociodemographic factors on blood pressure.

In developing countries like India where clinic-based care for complications is not readily available, population based preventive approach for the management of hypertension is

the best strategy. The study tried to produce information that shows relationship of hypertension in reference to modern lifestyle. Information provided by the study will be very helpful for developing future preventive and control strategy for hypertension.

Objectives

- 1) To estimate the magnitude of hypertension among employees working in MSRTC and Social Welfare Office
- 2) To determine factors associated with hypertension among these employees

MATERIALS AND METHODS

Study Type - A Descriptive Cross-sectional study

Study Duration - Sep – Oct – Nov 2024

Study Area - Maharashtra State Road Transport Corporation and Dept of Social justice in a city of Western Maharashtra

Study Population - Employees working in these two government offices.

Sample Size - All employees in these government offices

Inclusion Criteria - All employees in these government offices who were present on the day of visit to the office and willing to participate.

Exclusion Criteria - Employees not willing to participate.

Study Tool - The data was collected by face-to-face interview with the help of semi-structured questionnaire, in a health camp at their respective offices organised by Government Medical College. Data included socio-demographic information, addictions and number of hours of sedentary work. Height was recorded using stadiometer and weight was recorded using electronic weighing machine. Blood pressure was recorded by using sphygmomanometer.

Case Definition - Blood pressure is recorded in sitting position, in left arm. The pressure at which the sounds are first heard (phase I) is taken to indicate the systolic pressure. The pressure at which the sound disappears (phase V) is taken to indicate diastolic pressure. The systolic and diastolic pressures are measured three times over a period of 3 minutes and the lowest reading is recorded. Hypertension is diagnosed if, the systolic blood pressure readings is ≥ 140

mmHg and/or the diastolic blood pressure readings is ≥ 90 mmHg⁽⁴⁾ and also those who are taking medications of hypertension.

Statistical Analysis - After data collection it was entered in MS Excel. Data was analysed using chi square test⁽⁹⁾. P value < 0.05 was considered significant.

Ethical Consideration - Institutional Ethical Committee approval was sought, and informed consent was taken from participants.

RESULTS

In present study there were 91 participants from MSRTC and 63 participants from Social Welfare office. Therefore, there were total 154 participants. Participants belonged to age group 21 to 60 yrs. Out of total participants 69.48% were males and 30.51% were females. Majority of participants belonged to Hindu religion (92.85%). Majority of participants belonged to socioeconomic status class I (36.36%) followed by class II (33.76%). There is significant association between hypertension and gender and age. [Table 1].

7.14% of participants had habits of smoking and tobacco chewing. 12.33% had habit of alcohol consumption. 64.28% had BMI in pre-obese + obese category. Though there was not significant association between hypertension and these habits, still we can see that magnitude of hypertension is more in participants having these habits than those who don't have these habits. [Table 1].

The overall magnitude of hypertension was high 45.46% in these employees. [Fig. 1]. Out of that 24.03% were newly diagnosed.

Out of known cases of hypertension 48.48% cases had poor control of hypertension.

DISCUSSION

The overall magnitude of Hypertension in present study was 45.46% which is higher than a study conducted in bank employees in Surat city by Mohmmedirfan et al, where the prevalence of hypertension was 30.4%. But similar to our study the prevalence was higher in old age and in males compared to females⁽⁶⁾. The magnitude found in present study was similar to a study done in 192 bank employees from 12 nationalized banks in urban Puducherry, India by S Ganesh Kumar et al. They got the prevalence of 44.3%⁽⁵⁾. A study done in Rural Madhya Pradesh, by Anshuman Sharma et al; the prevalence of prehypertension and hypertension among studied population were 40.8% & 14.2% respectively, hypertensive's & pre hypertensive's shows no significant relationship between smoking but significant relationship found between the amounts of alcohol consumption with hypertension⁽¹⁰⁾.

CONCLUSION

The present study showed high magnitude of hypertension as compared to NFHS 5. There is significant association between hypertension and gender & age. The prevalence of hypertension is more in Males. As the age advances the prevalence of hypertension increases. The prevalence of hypertension was more in participants having habits like tobacco and alcohol consumption and in those having BMI more than normal. Also, prevalence was high in Socio-economic class I.

Recommendation

As hypertension is an Iceberg disease, there should be regular screening camps conducted in community for early diagnosis of the condition. IEC activities should be conducted regularly for giving health education to people on importance of lifestyle

modification in control of non-communicable diseases.

There should be regular follow-ups of patients and educating them to maintain good compliance for good control of hypertension. Any form of addiction should be avoided.

Source Of Support: Nil

Conflict Of Interest: None

Table 1 – Sociodemographic Characters And Their Association With Hypertension

Charact eristics	Hypertension			Chi squ are	p value
	Present	Absent	Total		
Gender					
Male	58(54.20%)	49(45.79%)	107(69.48 %)	10.82	p = 0.001* df = 1
Female	12(25.53%)	35(74.46%)	47(30.51%)		
Age group					
21 to 30	2(14.28%)	12(85.71%)	14(9.09%)	20.53	p = 0.0001* df = 3
31 to 40	15(29.41%)	36(70.58%)	51(33.11%)		
41 to 50	26(52%)	24(48%)	50(32.46%)		
51 to 60	27(69.23%)	12(30.76%)	39(25.32%)		
Religion					
Hindu	67(46.85%)	76(53.14%)	143(92.85 %)	2.17	p = 0.33 df = 2
Muslim	2(40%)	3(60%)	5(3.24%)		
Others	1(16.66%)	5(83.33%)	6(3.89%)		
Socio economi c status					
Class I	30(53.57%)	26(46.42%)	56(36.36%)	6.45	p = 0.16 df = 4
Class II	23(44.23%)	29(55.76%)	52(33.76%)		
Class III	2(15.38%)	11(84.61%)	13(8.44%)		
Class IV	1(33.33%)	2(66.66%)	3(1.94%)		
Not mentione d	14(46.66%)	16(53.33%)	30(19.48%)		
Smoking					
Yes	4(36.36%)	7(63.63%)	11(7.14%)	0.0088	p = 0.9254 df = 1
No	50(34.96%)	93(65.03%)	143(92.85 %)		
Tobacco chewing					
Yes	4(36.36%)	7(63.63%)	11(7.14%)	0.0088	p = 0.9254 df = 1
No	50(34.96%)	93(65.03%)	143(92.85 %)		
Alcohol					
Yes	7(36.84%)	12(63.15%)	19(12.33%)	0.0301	p = 0.8623 df = 1
No	47(34.81%)	88(65.18%)	135(87.66 %)		
BMI					
Pre obese+ obese	39(39.39%)	60(60.60%)	99(64.28%)	2.2815	p = 0.1309 df = 1
Normal	15(27.27%)	40(72.72%)	55(35.71%)		
Sedenta ry life					
1 to 2 hr	10(33.33%)	20(66.66%)	30(19.48%)	3.1568	p = 0.6758 df = 5
3 to 4 hr	5(55.55%)	4(44.44%)	9(5.84%)		
5 to 6 hr	8(33.33%)	16(66.66%)	24(15.58%)		
7 to 8 hr	20(30.76%)	45(69.23%)	65(42.20%)		
9 to 10 hr	4(50%)	4(50%)	8(5.19%)		
Not mention ed	7(38.88%)	11(61.11%)	18(11.68%)		

*Statistically significant association

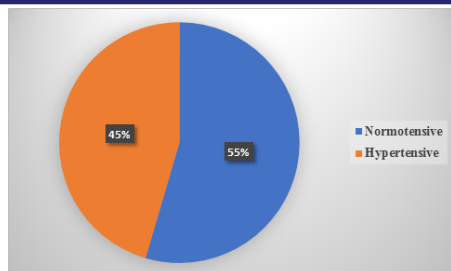


Figure 1: Magnitude Of Hypertension

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