



A Study to Assess the Prevalence and Risk Factors of Hypertension among the Bank Employees of Rajkot City, Gujarat, India

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ABSTRACT

Background: Hypertension (HTN) is a modifiable and major risk factor for coronary artery disease, heart failure, cerebrovascular disease and chronic renal failure. Present study conducted to study the prevalence of hypertension among bank employees of Rajkot city and to study the associated risk factors of hypertension among them.

Methods: Rajkot city has around 160 different bank branches, including 35 private and 125 nationalized bank branches. Total 70 bank branches selected including all 35 private and similar number of nationalized bank branches (35) by using systemic random sampling. The present study was conducted from January to December 2017. Information regarding demographic profile and risk factors of hypertension was collected on pretested proforma.

Results: Out of total 800 employees, prevalence of hypertension was found 30.4% including 7.6% self reported and 22.8% detected in the study. Highest prevalence of hypertension was reported in 50-59 years age group followed by 20-29 years (26.3%). Hypertension found more among male (90.9%) and work experience less than 10 years (42.8%). Significant association found on assessing risk factors like history of addiction, not doing any physical exercise, obesity, high BMI and hypertension.

Conclusion: Hypertension was reported more in elder age group and Males among bank employees. Age and sex were found significantly associated with hypertension. Addiction (tobacco and alcohol), not doing any physical exercise, central obesity and high BMI status found significant risk factors for hypertension.

Keywords: Hypertension, risk factors, prevalence

INTRODUCTION

Hypertension (HTN) is a modifiable and major risk factor for coronary artery disease, heart failure, cerebrovascular disease and chronic renal failure.¹ Hypertension exerts a substantial public health burden on cardiovascular health status and health-care systems in India.² It is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths in India.³ Important factors like, constant enormous changes in organization, structure and working process, excessive

use of computers and smartphones, undue psychological stress due to high expectations and goals, materialism, lack of spiritual and social support, food habits, lack of physical activity, obesity, inadequate sleep have impact on health of bank employees.^{4,5}

Productive restructure and reforms, economic market globalization, automation, outsourcing, job insecurity, long working hours, usage of computer screen for prolonged periods of time, increasing competition and multifunctional task are signifi-

cantly reshaping bank employees' lives professionally as well as personally. Combination of these can lead to posture problems, vision difficulties, musculoskeletal disorders, stress and other life style related disorders (hypertension, obesity, stroke, Diabetes etc.).⁵

Management of hypertension requires life-long medication with some lifestyle modifications. The only way to curb the problem of hypertension is by its prevention.⁶ Considering this, present study was conducted to estimate the prevalence and risk factors of hypertension among the bank employees of Rajkot city, Saurashtra region, India.

MATERIAL AND METHODS

The present study was conducted among the bank employees of Rajkot city, Gujarat. Sample size of 750 was calculated from the study done by Prashanth HL et al among bank employees of Gulbarga city, Karnataka in 2013 which showed 35.7% prevalence for hypertension.⁷ Rajkot city has around 160 different bank branches, including 35 private and 125 nationalized bank branches. Total 70 bank branches selected including all 35 private and similar number of nationalized bank branches (35) by using systemic random sampling. Employees working in selected nationalized and private bank branches and those who gave consent were included in this study. Care taker/ peon were excluded because of different kind of work profile and lack of factors which affect other technical bank employees.

The Data were collected in preformed, pretested and semi-structured questionnaire by interview technique from 1st January 2017 to 31st December 2017. Prior permission was taken from the head of regional office of each Bank for all branches and purpose of the study was explained. All branches were visited consequently and prior appointment was taken from the branch head of the selected banks. On most of the occasions, the survey was performed in the late afternoon and evening hours to facilitate the participation of employee. The questionnaire included demographic information of employee, history of any chronic disease, family history of any chronic disease, their addiction history, dietary habits and daily physical activity. Anthropometric measurements- height, weight and waist circumference were taken as well as blood pressure of each employee was recorded.

Blood Pressure was measured manually by sphygmomanometer. Blood pressure was measured in right arm in sitting Position. Two casual readings were taken at 5 minutes interval in all participants. Average of these readings was taken as final reading. On the basis of blood pressure,

subjects were classified according to Joint Nation Committee (JNC) 7 criteria in to following categories.^{6,8} Data entry was done in Microsoft Office Excel 2007 and analysis was done using the software package Epi Info (Version 7.2) from CDC, Atlanta, U.S.A.⁹

RESULTS

Total 800 bank employees participated in present study out of total 884 employees working in various nationalized (422) and private (378) selected banks of Rajkot city. Age range was from 20 to 59 years with Female: Male ratio of 1:3.6. Total prevalence of hypertension was found 30.4% including 7.6% self-reported and 22.8% detected in study (table 1).

Highest prevalence of hypertension was reported in 50-59 years age group followed by 20-29 years (26.3%) (table 2). Hypertension found more among male (90.9%) and work experience less than 10 years (42.8%). Significant association found on assessing risk factors like history of addiction, not doing any physical exercise, obesity, high BMI and hypertension (table 3).

Table 1: Distribution of employees as per their self-reported hypertension and hypertension detected in present study (n=800)

Hypertension	Yes (%)	No (%)
Self-reported	61 (7.6)	739 (92.4)
Detected in present study	182 (22.8)	618 (77.2)
Total	243 (30.4)	557 (69.6)

Table 2: Comparison of employees between various risk factors and prevalence of hypertension. (n=800).

Risk Factors	Normal (n=557) (%)	Hypertension Total (n=243) (%)
Age groups (years)		
20-29	232 (41.7)	64 (26.3)
30-39	217 (39)	50 (20.6)
40-49	41 (7.4)	36 (14.8)
50-59	67 (12)	93 (38.3)*
Sex		
Male	408 (73.2)	221 (90.9)*
Female	149 (26.8)	22 (9.1)
Work experience (Years)		
<10	387 (69.5)	104 (42.8)*
10-19	82 (14.7)	29 (11.9)
20-29	44 (7.9)	48 (19.8)
>29	44 (7.9)	62 (25.5)
Family history		
Present	151 (27.1)	78 (32.1)
Absent	406 (72.9)	165 (67.9)

*p<0.001

Table 3: Risk factors associated with hypertension among bank employees (n=800)

Risk Factors	Normal (n=557) (%)	Hypertension (n=243) (%)
Addiction history		
Yes	120 (21.5)	71 (29.2) †
No	437 (78.5)	172 (70.8)
Use of extra salt		
Yes	128 (23)	68 (28)
No	429 (77)	175 (72)
Habit of doing Exercise		
Regularly	143 (28.9)	87 (35.8)
Irregularly	62 (12.5)	37 (15.2)
not at all	352 (71.1)	119 (49)*
Central obesity		
Present	206 (36.3)	124 (51)*
Absent	351 (63.2)	119 (49)
BMI status		
Underweight (<18.50)	59 (10.6)	9 (3.7)
Normal (18.50-24.99)	263 (47.2)	86 (35.4)
Overweight (25.00-29.99)	195 (35)	96 (39.5)*
Obese (≥30.00)	40 (7.2)	52 (21.4)

* p<0.001, † p<0.05

DISCUSSION

Prevalence of hypertension among bank employees from various regions were ranging from 19% to 49%.^{6,8,10-15} Shivramkrishna HR et al (2010) had observed prevalence of 31.3% similar to present study.¹⁴ A study conducted in Russia by Konardi AO et al (2011) also reported 33.3% prevalence of hypertension among bank employees.¹³ In a study conducted by Gombet T et al (2012), 26.2% employees self-reported history of hypertension.¹⁶ In this study the prevalence of self-reported hypertension was found lesser (7.6%).

In present study, more prevalence (38.3%) of hypertension was observed among 50-59 years than 40-49 years of age group (14.8%). Similar findings were observed by Momin H et al (2012) in 50-59 age group (34.5%).⁶ Increasing age is the major risk factor for hypertension so this could be reason for higher prevalence in this age group. In present study prevalence of hypertension was more among male (90.9%) as compare to female (9.1%). Study conducted by Dubey M et al (2018) in employees of financial and telecom sector of Bhopal city also found more prevalence of hypertension among male (34.3%) than female (14.3%).¹⁷ Male were also having other risk factors like habit of consuming tobacco and alcohol. However, none of the female were having this kind of unhealthy habits in present study. This could be the reason behind different prevalence among males and females.

A study conducted by Nakanishi N et al (2001) among Japanese white collar workers also reported no significant association between working hours

and status of hypertension similar to present study.¹⁸ A study conducted by Jogunala O et al (2010) among bank employees in Iloian, Nigeria reported higher prevalence of hypertension among employees having negative family history (83.9%) as against positive family history of hypertension (16.1%).¹⁹ In present study also, similar findings were observed. Similar to this study Shanthirani Cs et al (2003) also found that type of diet was not significantly associated with hypertension prevalence.²⁰ In this study higher prevalence of hypertension was observed among employees who were not using extra salt (72%). This observation was found statistically not significant. Ismail IM et al (2014) also found that extra salt intake is not associated with hypertension.¹⁵ Nagammanavar R et al (2015) reported higher prevalence of hypertension among those who were not doing exercise regularly (53.3%).⁸ Similar findings were reported in present study also. In present study 51% employees were having hypertension and central obesity (according to WHO waist circumference criteria).²¹ A study conducted by Undhad AM et al (2011) reported 63.3% employees having hypertension and central obesity.²² In present study among hypertensive employees, prevalence of overweight and obesity was reported 39.5% and 21.4%. The difference found in BMI status with respect to hypertension was found statistically highly significant (p = 0.00). Similar findings were observed by Momin et al (2012) in Surat city.⁶

Regular periodic medical check-up and calculation of BMI to be encouraged, for those who are not diagnosed hypertensive. Promoting healthy lifestyles and lifestyle modifications related to the behavioral risk factors is recommended in reducing and controlling the prevalence of hypertension. There is a need for information, education, communication and behavior change in bank employees for prevention of hypertension and its consequences because awareness about their blood pressure profile was less even though they belonged to literate and high income group.

LIMITATION

Bias due to measurement error of BMI and blood pressure as well as knowledge of individual regarding their hypertension.

CONCLUSION

Hypertension was reported more in elder age group and Males among bank employees. Age and sex were found significantly associated with hypertension. Addiction (tobacco and alcohol), not doing any physical exercise, central obesity and

high BMI status found significant risk factors for hypertension.

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