

# Study of Socio-demographic Profile & Prevalence Of Hypertension among Bank Employees in Bagalkot City

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### Abstract:

**Background & Objective:** Hypertension represents one of the most formidable dilemma, the world has faced in modern times. It is an ubiquitous disorder. Decreased physical activities coupled with increased mental tensions are contributors of hypertension. They are commonly seen amongst employees of the profession where working is sedentary and is accompanied by high level of mental stress. Bank employees fit in this picture and supported by the statistics available and the trend of hypertension, there is a need for study regarding the prevalence of hypertension for bank employees in order to educate them about prevention and life style modification for hypertension. **Methods:** A cross-sectional study was conducted among all the bank employees of Bagalkot city i.e, 678. Employees were interviewed using a structured, pre-tested questionnaire. Two Blood Pressure readings were recorded using mercury sphygmomanometer in the sitting position and the mean of two was considered for analysis. Data entry and analysis was done using SPSS 17. **Results:** The prevalence of hypertension was 49.4%. Increasing age, gender, marital status, designation, type of work, duration of work, known history of diabetes, family history of hypertension, extra fat intake, physical activity, tobacco smoking, alcohol consumption, BMI, high waist-hip ratio in males and mental stress were found to be significant risk factors of hypertension. The treatment compliance was 100% among bank employees.

**Keywords:** Hypertension; prevalence; risk factors; bank employee

## INTRODUCTION

Hypertension represents one of the most formidable dilemma, the world has faced in modern times. It is an ubiquitous disorder. The importance of this chronic condition needs no emphasis due to its role in causation of coronary heart disease, stroke and other vascular complications. It is one of the major risk factors for cardiovascular mortality, which accounts for 20-50% of all deaths.<sup>1</sup>

The World Health Organization defines hypertension as systolic blood pressure more than or equal to 140 mmHg and/or diastolic blood pressure more than or equal to 90 mmHg.<sup>2</sup>

Indian studies revealed that the prevalence of hypertension has increased by 30 times among the urban population over a period of

55 years and about 10 times among the rural population over a period of 36 years.<sup>3</sup>

Hypertension is one of the diseases of occupational origin. It is ranked fifth amongst the ten most important categories of occupational illness. As per the report of National Institute of Occupational Safety and Health USA, the percentage of hypertensives increases more when selected occupational groups are screened.<sup>4</sup> They are commonly seen amongst employees of the profession where working is sedentary and is accompanied by high level of mental stress. Bank employees fit in this picture and supported by the statistics available and the trend of hypertension, there is a need for study regarding the prevalence of hypertension for bank

employees in order to educate them about prevention and life style modification for hypertension.<sup>5</sup>

## MATERIALS AND METHODS

A cross-sectional study was conducted among all the bank employees of Bagalkot city Karnataka. The study period was from January 2013 to June 2014. Based on the previous data the prevalence of the hypertension among bank employees was 28.35%. Based on this prevalence sample size was calculated. The sample size is estimated based on 5% significant level and 15% allowable error. This was estimated using the formula  $n=4pq/l^2=450$ . The minimum sample size required to cover the desired objective was 450. Taking into consideration that

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parameter taken from a representative sample, however accurate cannot replace the statistic from the population along with the request from the bank employees to include all of them and availability of time and resources, it was decided to survey the entire population and thus avoid errors that can arise by sampling. Thus, out of 758 a total of 678 consenting individuals were considered for the study.

A pre-tested, semi-structured questionnaire was used to collect data on socio-demographic profile and risk factors of hypertension among the bank employees. Weight was recorded using an electronic weighing machine and was rounded off to the nearest 0.5 kg. For measuring height, the subject was made to stand erect looking straight on a level surface with heels together and toes apart without shoes. Height was read to the nearest 0.5 cm. Waist circumference was measured with the subject in standing position using a non-elastic plastic tape midway between the lower rib margin and the iliac crest to the nearest 1 mm. Hip circumference was measured around the widest portion of the buttocks, with the tape parallel to the floor.

Joint National Committee-7 (JNC-7) criteria<sup>6</sup> were used for measurement and definition of hypertension. Hypertension was defined as systolic blood pressure more than or equal to 140 mmHg and/or diastolic blood pressure more than or equal to 90 mmHg. Those individuals already diagnosed as hypertensive were also labelled as such. Blood pressure was recorded using a mercury sphygmomanometer by palpatory and auscultatory method. Two blood pressure readings were recorded in the sitting position and the mean of the two was considered

for analysis. The first reading was taken after at least 15 min of rest and the second reading was taken 15 min after the first reading. Those individuals who were not willing to participate in the study or were unavailable even after two visits or women who were pregnant were excluded. Data was entered into a computerized Excel (Microsoft Excel 2009) spread sheet, subsequently it was analysed using SPSS (version 20).

## RESULTS

This current study has been conducted among all Bank employees of Bagalkot City. There were 32 Banks operating in Bagalkot city limits, and all consenting staff members fulfilling the inclusion criteria in these banks were considered for the study.

The minimum sample size required to cover the desired objective was 450. Taking into consideration that parameter taken from a representative sample, however accurate cannot replace the statistic from the population along with the request from the bank employees to include all of them and availability of time and resources, it was decided to survey the entire population and thus

**Table 1: Distribution of respondents according age, gender, religion and marital status**

Age (in years)		
	Frequency	Percent
<= 25	91	13.42
26-35	246	36.28
36-45	172	25.37
46-45	115	16.96
56+	54	7.96
<b>Total</b>	<b>678</b>	<b>100</b>
Gender		
Male	549	80.97
Female	129	19.03
<b>Total</b>	<b>678</b>	<b>100</b>
Marital status		
Married	504	74.34
Unmarried	174	25.66
<b>Total</b>	<b>678</b>	<b>100</b>
Religion		
Hindu	646	95.28
Muslim	32	4.72
<b>Total</b>	<b>678</b>	<b>100</b>
Type of family		
Nuclear	629	92.77
Joint	49	7.23
<b>Total</b>	<b>678</b>	<b>100</b>

**Table 2: Distribution of respondents according to literacy and socio-economic status.**

Literacy status	Frequency	Percentage
Primary school	6	0.88
Middle school	28	4.13
Secondary school	81	11.95
Higher secondary	59	8.7
Graduate/Post graduate	481	70.94
Professional	23	3.4
<b>Total</b>	<b>678</b>	<b>100</b>
Socio-Economic class	Frequency	Percentage
Class I	532	78.5
Class II	108	15.9
Class III	30	4.4
Class IV	6	0.9
Class V	2	0.3
<b>Total</b>	<b>678</b>	<b>100</b>

avoid errors that can arise by sampling. Thus, a total of 678 consenting individuals were considered for the study. Bank employees of Bagalkot city

registered were 758, those with secondary hypertension were 23, not willing to participate were 30, not available after 3 visits were 27. Thus, total employees surveyed were 678.

Out of the total 678 respondents, 91 (13.42%) were < 25 years, 246 (36.28%) belonged to 26 – 35 years age group, 172 (25.37%) belonged to 36 – 45 years age group, 115 (16.96%) belonged to 46 – 55 years age group and 54 (7.96%) were aged more than 56 years and majority of them 549 (80.97%) were males and 129 (19.03%) were females. Among them 504 (74.34%) were married and 174 (25.66%) were unmarried and 646 (95.28%) were Hindus, 32 (4.72%) were Muslims and nobody belonged to other religions. 629 (92.77%) of 678 participants belongs to nuclear family and 49 (7.23%) to joint family.

Out of 678 respondents, 6 (0.88%) had education up to primary school level, 28 (4.13%) read up to middle school level, 81 (11.95%) up to secondary school level, 59 (8.70%) up to higher secondary/ diploma level, 481 (70.94%) were graduate/postgraduate and 23 (3.40%) were professionals. 532 (78.47%) belonged to class I, 108 (15.93%) to class II, 30 (4.42%) to class III, 6 (0.88%) to class IV and 2 (0.3%) to class V. Of 678 individuals, 335 (49.4%) were found to have hypertension and 343 (50.6%) were non hypertensive.

## DISCUSSION

The present study was conducted to estimate the prevalence of hypertension and to identify some socio-demographic and lifestyle risk factors associated

with hypertension among bank employees in Bagalkot city.

### Socio-demographic profile

A total of 678 subjects were studied, in which most of the study population belonged to age group of 26-35years (36.28%) followed by 36-45 years (25.37%) and the mean age group of study population was 37.29 ± 11.09. 80.97% of the study population was constituted by males and the rest by females 19.03%. Majority of the study population belonged to class I (78.47%) followed by class II (15.93%) of modified B. G. Prasad socio-economic classification<sup>7</sup>.

### Prevalence of hypertension

Following JNC-7 definition of hypertension, the prevalence of hypertension in the present study was 49.4%. Out of 50.6% of normotensive around 27.6% of the population had blood pressure in the normal range and 23% of the population had pre-hypertension.

Similar findings were reported by the other researchers who did their study among bank employees as follows,

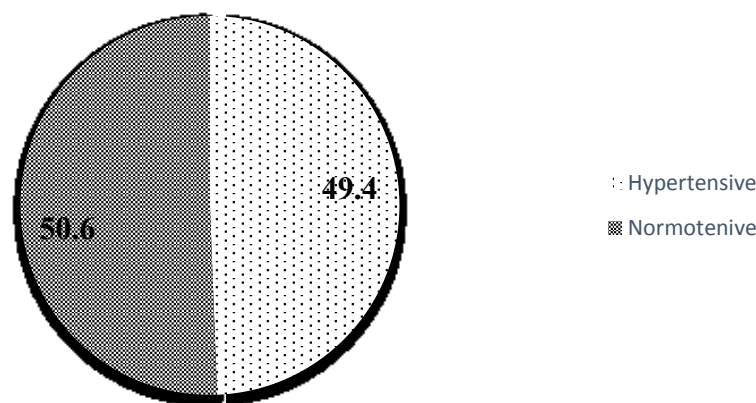
A cross sectional study done by Momin MH et al<sup>6</sup> in 2004-2005 on socio-demographic factors affecting prevalence of hypertension among bank employees in Surat city showed a overall prevalence of hypertension to be 30.4 %.

A cross sectional study was done by a Shivakrishna HR et al<sup>8</sup> for a period of 1 year from 1st April 2004 to 31st March 2005 on Risk Factors of Coronary Heart Disease(CHD) among Bank employees, population consisted of bank employees working in various banks in Belgaum city and found the

**Table 3: Distribution of respondents as per JNC 7 classification of hypertension**

Classification		Frequency	Percentage
Non Hypertensive	Normal	187	27.6
	Pre-hypertension	156	23.0
	Total	343	50.6
Hypertensive	Stage I Hypertension	260	38.3
	Stage II Hypertension	75	11.1
	Total	335	49.4
Grand Total		678	100

**Figure 1: Pie chart showing distribution of study participants based on JNC-7 classification of hypertension.**



prevalence of hypertension to be 31%.

In 2006 Maroof KA et al<sup>9</sup> did a study in Meerut district of Uttar Pradesh on prevalence of hypertension among the bank employees in 218 subjects were studied and found the prevalence of 69.5%.

Self-reported chronic diseases and occupational health risks among bank employees of Southern Karnataka City, India a cross sectional study was conducted by Kumar SG<sup>10</sup> during January 2008 on a representative sample of bank employees aged 20-59 years in Mangalore city. A total of 200 subjects were analysed and found the prevalence of hypertension to be 31.3%.

Yadavannavar MC et al<sup>11</sup> in 2008 conducted cross sectional study in Bijapur city on prevalence of hypertension in some occupational groups of Bijapur. 335 bank employees were included and the prevalence of hypertension found to be 28.35%.

In 2009 Laxmikant Lokare et al<sup>12</sup> did study in Hubli on Metabolic

Equivalent Task Score and Risk Factors of Coronary Heart Disease in Bank employees. 400 bank employees across Hubli were studied and found the prevalence of hypertensive to be 38%.

Gudadinni MR et al<sup>13</sup> in 2011 conducted a cross-sectional study for a period of three month on Risk Factors of Coronary Heart Disease Among Bank Employees in Bijapur city and included 170 bank employees of 21-60yrs of age and found the prevalence of hypertension to be 31%.

A cross-sectional study conducted among employees of 13 banks located in Sullia by Ismail IM et al<sup>14</sup> on Prevalence of hypertension and its risk factors during May-August 2012. A total of 117 bank employees including 18 managers/assistant managers, 33 officers and 66 clerks were studied and found the prevalence of hypertension to be 39.3%.

A cross-sectional study was conducted by Kumar SG<sup>15</sup> on Prevalence and Risk Factors of Hypertension among Bank Employees in Urban Puducherry,

India from May-August 2012 on 192 (128 male and 64 female) bank employees from 12 nationalized banks and revealed the

Prevalence of hypertension and pre-hypertension to be 44.3% (95% CI: 37.2%–51.3%) and 41.1% (95% CI: 34.1%–48.1%), respectively.

## CONCLUSIONS

The prevalence of hypertension was higher among the bank employees as compared to the general population. We recommend routine screening for hypertension among bank employees and institution of appropriate preventive interventions including health education on life-style modification.

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