



“HYPERTENSION AND ASSOCIATED RISK FACTORS AMONG THE BANK SECTOR IN TUMAKURU, KARNATAKA”

Srirangam Anusha¹ Kavya H B², Latha B³

¹Assistant Professor, Sree Siddaganga College of Pharmacy, B H Road, Tumakuru, Karnataka.

²Assistant Professor, Sree Siddaganga College of Pharmacy, B H Road, Tumakuru, Karnataka.

³Pharm D Intern Department of Pharmacy Practice Sree Siddaganga College of Pharmacy, B H Road, Tumakuru, Karnataka.

ABSTRACT

Background: Hypertension (the silent killer) is the modern-day epidemic and becoming a significant medical and global public health issue due to its role in coronary heart disease, stroke, and other vascular complications. Elevated blood pressure is a systolic blood pressure of ≥ 140 mmHg and diastolic blood pressure of ≥ 90 mmHg recorded in an individual. The global prevalence of elevated blood pressure in adults aged 18 years and older was around 22% in 2014, with the number of individuals aged 30-79 years with hypertension doubling from 1990 to 2019.

Materials and Methods: A cross sectional study was conducted in Karnataka among bank employees. Data were collected, analyzed, interpreted using descriptive statistics.

Results: Overall, this study enrolled 54 bank workers, 68.5% (n=37) were males, and 31.4% (n=17) were females, the majority of which 43.9% (n=43) were aged between 41 and 50 years. Considering job descriptions, where most of them were 61-70kg of body weight 42.5% (n=23), 29.6% (n=16) were married, 88.8% (n=48) were employees, 9.2% (n=5) were cashiers, 3.7% (n=2) were security workers, 1.8% (n=1) were clerks. Elevated blood pressure was present in (n=26) 45 54.1% employees, of which (n= 48) 88.8% had blood pressure ranging from 130/90 to 150/100 mmHg and (2%) above 150/100 mmHg. Nevertheless, 18 (40%) participants had undiagnosed hypertension and were followed up to confirm the diagnosis. However, only (n=6) 11.1 % of workers were smokers. Positive family history of hypertension was found in (n=9) 16.6% workers, while hypertension combined with DM was found in (n=7) 12.9% workers. 58.3% (n=7) were check BP 3 months once, 80% (n=4) were check 6 months once and 75% (n=6) were check occasionally.

Conclusion: The present study concluded that the frequency of high blood pressure was considerably high among bank employees in Tumakuru, Karnataka, with a significant percentage being newly diagnosed. The risk factors of high blood pressure among banking sector professionals were age (>40 years), obesity and central obesity, DM, positive family history, salty diet intake, smoking, adding salt to meals, severe stress levels at work, and sedentary lifestyle.

Key words: High blood pressure, employees, banking sector.

Introduction:-

Hypertension (the silent killer) is the modern-day epidemic and becoming a significant medical and global public health issue due to its role in coronary heart disease, stroke, and other vascular complications¹. Elevated blood pressure is a systolic blood pressure of ≥ 140 mmHg and diastolic blood pressure of ≥ 90 mmHg recorded in an individual². The global prevalence of elevated blood pressure in adults aged 18 years and older was around 22% in 2014, with the number of individuals aged 30-79 years with hypertension doubling from 1990 to 2019^{3,4}. Approximately 9.4 million deaths and 7% of disease burden as computed by DALYs (disability-adjusted life years) resulted from raised blood pressure in 2010.³ There is a direct correlation between increased blood pressure levels and the risk of stroke and coronary events, as it is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease death.^{5,6}

Hypertension is becoming a public health emergency worldwide, with the African region having the highest prevalence of high blood pressure worldwide at 27% in 2021⁷. In addition, some studies projected an increase of 80% in the hypertensive population by 2025⁸.

Hypertension is a controllable disease, and a slight decline of 2 mmHg population-wide in BP can prevent 151,000 stroke cases. The prevalence of hypertension has increased by 30 times among the urban population over 55 years and about ten times among the rural population over 36 years⁹. Many modifiable factors contribute to the current high prevalence rates of hypertension. These include obesity, alcohol intake, physical inactivity, psychological stress, eating a salty diet, inadequate intake of fruits and vegetables, and socioeconomic determinants³. Hypertension is one of the most common self-reported occupational health challenges, with banking sector professions being at substantial risk given the sedentary working conditions and high levels of mental stress^{6,10}.

Hypertension is the leading cause of mortality in the world and is ranked third as a cause of disability-adjusted life years.¹⁰ The developing countries including India is experiencing epidemiological transition from communicable to non-communicable diseases and hypertension has emerged as a

significant public health problem in both urban and rural areas. Cardiovascular diseases such as coronary heart disease and stroke are the most frequent causes of deaths in developing countries. Hypertension is directly responsible for 42% of coronary heart disease deaths and 57% of all stroke deaths in India.¹¹

Epidemiological studies have shown that sedentary life-style and stress are important risk factors for hypertension. The job of bank employees is both sedentary and involves a high level of stress and thus making banking a potential occupational risk group for hypertension. The control of hypertension will require modification of its risk factors and hence necessitates identifying the various risk factors of hypertension among bank employees¹².

Studies on prevalence and risk factors of hypertension among bank employees are sparse in India and it is imperative that studies must be carried on to have an insight into the magnitude of the problem. Hence, this study was undertaken to estimate the prevalence of hypertension and identify its risk factors among bank employees of Sullia, Karnataka¹³.

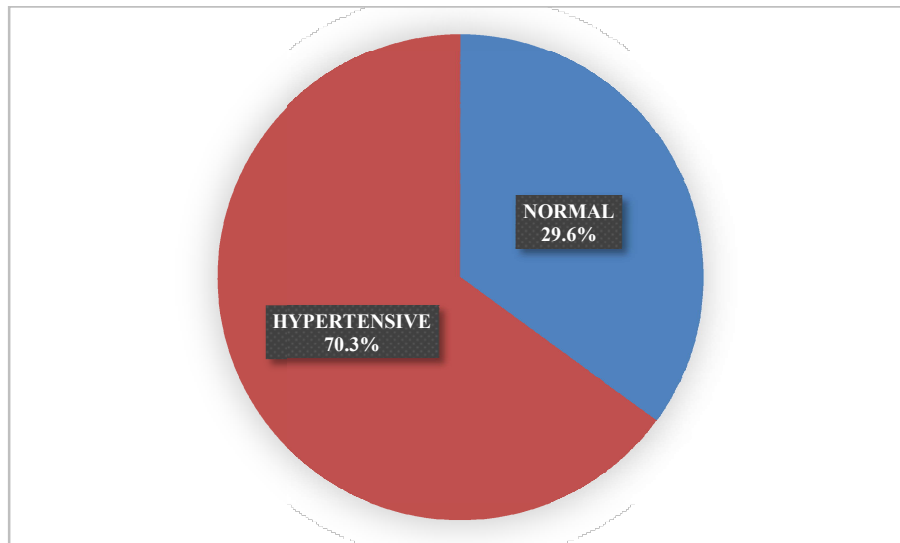
Results:-

Overall, this study enrolled 54 bank workers, 68.5% (n=37) were males, and 31.4% (n=17) were females, the majority of which 43.9% (n=43) were aged between 41 and 50 years. Considering job descriptions, where most of them were 61-70kg of body weight 42.5% (n=23), 29.6% (n=16) were married, 88.8% (n=48) were employees, 9.2% (n=5) were cashiers, 3.7% (n=2) were security workers, 1.8% (n=1) were clerks. Elevated blood pressure was present in (n=26) 45 54.1% employees, of which (n= 48) 88.8% had blood pressure ranging from 130/90 to 150/100 mmHg and (2%) above 150/100 mmHg. Nevertheless, 18 (40%) participants had undiagnosed hypertension and were followed up to confirm the diagnosis. However, only (n=6) 11.1 % of workers were smokers. Positive family history of hypertension was found in (n=9) 16.6% workers, while hypertension combined with DM was found in (n=7) 12.9% workers. Regarding nutritional history, most of the workers mixed diet (n=25) 46.2%, 27.7% (n=15) were going for walking, 36% (n=36) were taking diary products, 58.3% (n=7) were check BP 3 months once, 80% (n=4) were check 6 months once and 75% (n=6) were check occasionally.

FACTOR	N(54)	HYPERTENSIVE	%
AGE			
<30	16	0	0
31-40	10	2	18.5
41-50	17	12	31.4
51-60	11	7	20.3
GENDER			
Male	37	29	68.5
Female	17	18	31.4
BODY WEIGHT			
50-60KG	14	10	25.9
61-70KG	23	11	42.5
71-80KG	17	12	31.4
MARITAL STATUS			
Married	16	3	29.6
Unmarried	38	0	70.3
JOB DESCRIPTION			
Manager	0	0	0
Employee	48	26	88.8
Cashier	5	2	9.2

Clerk	1	1	1.8
security	2	1	3.7
PAST HISTORY			
HTN	15	7	27.7
DM + HTN	13	3	24.07
Others			
Thyroid	1		0.01
Anemia	1		0.01
SOCIAL HISTORY			
Smoking	6	4	11.1
Alcoholic	2	2	3.7
others	0		0
FAMILY HISTORY			
HTN	9	0	16.6
DM	7	0	12.9
Others			
PERSONAL HISTORY			
Sleep			
Normal	49	20	90.7
Disturbed	5	3	9.2
LIFE STYLE			
Diet			
Vegetarian	18	2	33.3
Non vegetarian	11	7	20.3
Mixed	25	19	46.2
Physical activity			
Walking	45	30	83.3
Addition of extra salt	34	22	62.9
No. of fruit serving per week	44	28	81.4
Diary products	50	32	92.5

How frequently you will check for BP?			
3 months once	12	5	22.2
6 months once	5	1	9.2
occasionally	8	3	14



Prevalence of hypertension among bank employees

Discussion:-

To the best of our knowledge, this is the first study assessing the frequency and risk factors of hypertension among the banking sector profession in Tumakuru, Karnataka. In the present study, elevated blood pressure was seen in Elevated blood pressure was present in (n=26) 45 54.1% employees, of which (n= 48) 88.8% had blood pressure ranging from 130/90 to 150/100 mmHg and (2%) above 150/100 mmHg. Nevertheless, 18 (40%) participants had undiagnosed hypertension and were followed up to confirm the diagnosis. Regarding nutritional history, most of the workers mixed diet (n=25) 46.2%, 27.7% (n=15) were going for walking, 36% (n=36) were taking diary products, 58.3% (n=7) were check BP 3 months once, 80% (n=4) were check 6 months once and 75% (n=6) were check occasionally.

The ageing process is one of the main risk factors for developing hypertension, and the risk increases with age for both genders. In this study, elevated blood pressure was significantly more common among employees above 40 years than their younger coworkers. These findings are comparable with results from west Indian regions that reported a significant association between hypertension among bank employees aged 45 years and above. Furthermore, the Framingham Heart Study concluded that the lifetime risk for people developing hypertension between 45 and 65 years of age is estimated to increase up to 90%.

Conclusion:-

The present study concluded that the frequency of high blood pressure was considerably high among bank employees in Tumakuru, Karnataka, with a significant percentage being newly diagnosed. The risk factors of high blood pressure among banking sector professionals were age (>40 years), obesity and central obesity, DM, positive family history, salty diet intake, smoking, adding salt to meals, severe stress levels at work, and sedentary lifestyle.

Reference:-

1. WHO: A global brief on hypertension Silent killer, global public health crisis . WHO, Geneva; 2013.
2. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. (2003). Accessed: December 10, 2013: <http://www.nhlbi.nih.gov/guidelines/hypertension/jnc7full.pdf>.
3. WHO: Global Status Report on Non-communicable Diseases . WHO, Geneva; 2014.

4. NCD Risk Factor Collaboration (NCD-RisC): Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. *Lancet*. 2021, 398:957-80.
5. Luo D, Cheng Y, Zhang H, et al.: Association between high blood pressure and long term cardiovascular events in young adults: systematic review and meta-analysis. *BMJ*. 2020, 370:m3222. 10.1136/bmj.m3222
6. Rodgers A, Lawes C, MacMahon S: Reducing the global burden of blood pressure-related cardiovascular disease. *J Hypertens Suppl*. 2000, 18:S3-6.
7. World Health Organization (WHO): Hypertension fact sheets. WHO, Geneva; 2021.
8. Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J: Global burden of hypertension: analysis of worldwide data. *Lancet*. 2005, 365:217-23. 10.1016/S0140-6736(05)17741-1
9. Gupta R: Meta-analysis of prevalence of hypertension in India . *Indian Heart J*. 1997, 49:43-8
10. Ezzati M, Lopez AD, Rodgers A, Vander Hoorn S, Murray CJ, Comparative Risk Assessment Collaborating Group. Selected major risk factors and global and regional burden of disease. *Lancet* 2002;360:1347-60.
11. WHO. Preventing Chronic Diseases: A Vital Investment. Geneva: World Health Organization; 2005. Available from: http://www.who.int/chp/chronic_disease_report/full_report.pdf. [Last accessed on 2012 May 14].
12. Gupta R. Rethinking diseases of affluence; coronary heart disease in developing countries. *South Asian J PrevCardiol* 2006;10:65-78.