

Prevalence Of Hypertension Among Professional Drivers

Neha Umesh Deshpande^{1*}, Dr. T. Poovishnu Devi²

^{1*}Final year student, Krishna College of Physiotherapy, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, India

²Dean academics & HOD, department of cardiopulmonary physiotherapy, Krishna college of physiotherapy, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, India

ABSTRACT:

The prevalence of hypertension among professional drivers in Maharashtra, India, is examined in this study. 174 drivers with more than five years of experience, ages 25 to 50, took part. A questionnaire on lifestyle, work-related characteristics, and blood pressure readings was used to gather data. The findings showed that a high incidence of hypertension was associated with bad lifestyle choices and work-related stress. In order to enhance the health and well-being of professional drivers, the research emphasizes the necessity of preventative measures including stress management, a healthy diet, and frequent exercise.

BACKGROUND: Professional drivers—such as those who operate buses, cars, and trucks—are an essential segment of the transportation industry, but they endure significant levels of stress because of their rigorous work schedules, long hours, and duty to ensure the safety of both passengers and cargo. The risk of hypertension, a significant risk factor for cardiovascular disease, is raised by this work-related stress when combined with bad lifestyle choices.

METHOD: The study was carried out in Maharashtra, India, and included 174 professional drivers aged 25 to 50 years old, all with more than five years of driving experience. Blood pressure was measured and categorized according to JNC-8 recommendations as normal, pre-hypertensive, or hypertensive. Participants also completed a questionnaire that measured sociodemographic characteristics, lifestyle behaviours, and work-related stresses.

RESULTS: The study discovered that 55.17% of the drivers were pre-hypertensive, whereas 25.86% were hypertensive. Bus drivers had the highest rate of hypertension (62.06%), whereas truck drivers had the highest rate of pre-hypertension (74.13%). Significant characteristics related with hypertension were age (drivers aged 40-50 had higher rates), smoking, lack of exercise, long driving hours, and overweight status. Regular exercise and a shorter driving path were connected to decreased hypertension rates.

CONCLUSION: The study reveals the high incidence of hypertension among professional drivers, stressing the importance of age, lifestyle choices, and job circumstances. To reduce hypertension risks and enhance the health of this high-risk occupational group, targeted treatments such as promoting regular exercise, quitting smoking, and adopting better work schedules are required.

Received 16/12/2024, Acceptance 22/12/2024

DOI: <https://doi.org/10.53555/AJBR.v27i3.6208>

© 2024 The Author(s).

This article has been published under the terms of Creative Commons Attribution-Non-commercial 4.0 International License (CC BY-NC 4.0), which permits non-commercial unrestricted use, distribution, and reproduction in any medium, provided that the following statement is provided. "This article has been published in the African Journal of Biomedical Research"

INTRODUCTION

Road transportation is the most common mode of transportation in terms of share of goods and passenger traffic as well as economic contribution. It plays a major role in socioeconomic integration and development.[8]

A study by Arjun Lakshman, Neeraj Manikath, Asma Rahim, and V. P. Anilakumari found that 16.8% (30/179) of participants had normal blood pressure (95% CI = 11.2–22.3), 41.9% (75/179) had prehypertension (95% CI = 34.6–49.7), and 41.3% (74/179) had hypertension (95% CI = 34.1–49.2).

Beatriz Bastos Braga, Fabrícia Geralda Ferreira, Hamilton Henrique Teixeira Reis, and João Carlos Bouzas Marins found a positive correlation between professional experience and the prevalence of arterial hypertension (31.30%) and moderate coronary risk (46.30%) ($r = 0.519$; $p < 0.05$).

Professional drivers, including those operating cars, buses, and trucks, are an extremely significant, responsible, and under pressure group of workers. Professional drivers of all kinds, particularly those who transport loads and passengers, are more likely to develop hypertension. They have to take extra care

while handling heavy vehicles with the responsibility of passengers and the load or goods that they are carrying. The public as well as private transportation and load transport sectors employ millions of people globally, the majority of whom are drivers, and they provide a vital service to the general population [1]

Numerous studies have addressed the negative effects of various environmental factors that are connected to professional drivers' job and vehicle operators in the transportation sector may be among the occupational groups with the highest prevalence of job stress rates.[4] Several factors have been identified as potential stressors, which also increase the likelihood of adverse outcomes in terms of health, safety, and performance. These factors include persistent time pressure, excessive physical demands, disturbed sleep schedule, unhealthy dietary habits (having snacks or fast-food items between the shifts), overstimulating environments, problematic conversations with many other road users, lack of social support at work, and irregular shifts.[4] Traffic jams, exhaust fumes from passing cars, uneven pavement, inadequate town planning and traffic laws, irresponsible pedestrians, excessive speeding because of competition among buses, and persistent whole-body vibration are the several factors that also contribute for increasing stress levels.[1]

Environmental conditions, job design, interpersonal dynamics, and individual characteristics are some of the factors that can cause work-related stress. Long hours, irregular work schedules, or rotating shifts can disturb natural rhythms and cause fatigue.[2] Physical conditions like excessive heat, noise, inadequate lighting, or sedentary tasks can cause discomfort and strain. Additionally, repetitive or monotonous tasks can cause mental exhaustion, while unclear job responsibilities or expectations can cause uncertainty and anxiety. [2]Conflicts with supervisors or coworkers, poor communication, or perceived unfair treatment can further exacerbate workplace tensions, and jobs involving public interaction, like customer service or professional driving, frequently expose employees to challenging situations that can increase pressure. Overall well-being can be worsened by a disturbed work-life balance, which includes inconsistent eating and sleeping habits as well as physical inactivity.[2] Employees' personal resilience, perceived capacity to withstand pressure, and self-confidence all affect how they handle demands at work. These pressures can be exacerbated for professional drivers by particular difficulties such as long hours, traffic, and the responsibility of operating a vehicle. Other variables that might affect general well-being include employment instability, low job satisfaction, lack of recognition, and restricted growth prospects. These factors taken together, along with having little influence over one's employment, can have detrimental effects on one's personal and professional life.[2]

Almost one third of deaths globally are caused by cardiovascular disease.

One of the most important interventions in cardiovascular disease is early detection of risk factors and treatment to manage them. Systemic Arterial Hypertension is one of the

most significant risk factors for cardiovascular disease. Therefore, early diagnosis of various risk factors causing hypertension and managing them accordingly can be useful to prevent further complications.[1]

One of the most common causes of high blood pressure in modern society is occupational stress, or work-related stress caused by a lack of work-life balance and various stress inducing factors.[2] Stress is linked to maladaptive lifestyle choices like smoking, drinking, being overweight and inactivity, as well as hyperactivation of the autonomic nervous system and dysregulation of the hypothalamic pituitary adrenal axis.

Increased levels of anxiety, depression or anger are psychological corollaries of stress that are known to be indicative of hypertension.[3]

In certain professions, work-related stress has been linked to an increased risk of hypertension and coronary heart disease itself. The prevalence of hypertension may be attributed to high occupational stress in 21% to 32% of cases.[5] In addition to causing frequent blood pressure increases, stress can also trigger the nervous system to release a lot of vasoconstricting hormones, which raise blood pressure. A number of factors, such as white coat hypertension, work stress, race, social environment, and mental discomfort, can alter blood pressure through stress. Additionally, a risk factor's impact on blood pressure is amplified when combined with additional stressors.[6] The job strain model of Karasek et al. is the most extensively researched model of occupational stress. It focuses on two aspects of the workplace: decision latitude, or the extent of choice an employee has over how they carry out their duties, and job demands, or workload. This concept states that the greatest amount of stress is produced by a combination of high demand and little control, or high strain. In line with the expected consequences of prolonged blood pressure elevation, high job stress has been linked to elevated ambulatory blood pressure when working, at home, and while sleeping, as well as increased left ventricular mass. Stressful work conditions, like other stressors, can fluctuate over time, and the chronicity of exposure appears to be an important factor in predicting hypertension risk.[7]

The aim of this study is to investigate the prevalence of hypertension among professional drivers, with a particular focus on understanding the correlation between occupational stress and the development of hypertension.

The objectives include examining the proportion of drivers (car, truck, and bus) who have elevated blood pressure or are diagnosed with hypertension. Additionally, the study will explore how work-related stress factors, such as long working hours, irregular sleep, and traffic-related pressures, contribute to the onset of hypertension. It will also assess the percentage of drivers at high risk for hypertension, considering factors like lifestyle, health conditions, and job-specific stressors. By studying these aspects, the research aims to provide valuable insights into the health risks faced by professional drivers, hence it will be easy to make them aware about proper

preventive measures such as stress management, healthy dietary habits, appropriate amount of sleep, regular physical activity, quitting smoking/alcohol, etc. which can help promote better occupational health and safety practices. This may prove helpful for all type of drivers which are most responsible and accountable personals but equally ignored class of society. Given the importance of these professionals to society and the risks associated with their line of work, research is required to make them aware about it and receive the public health care facilities they need.

Professional drivers (taxi, bus, truck drivers) are a most important personals, highly responsible as well as highly stressed group of job professionals. There is a lot of social, medical, and financial neglect towards this group of professionals. These individuals have a higher risk of developing hypertension due to their stressful jobs, irregular, endless work schedules, sleepless nights, and poor eating schedules. Hence the project aims at working on prevalence of hypertension among professional drivers in Maharashtra, India.

The study uses a cross-sectional survey approach to measure particular health outcomes. The overall sample size is 174 people, chosen at random. The six-month trial will take place in the Indian state of Maharashtra. Participants must be aged 25 to 50 and have at least 5 years of professional experience in the relevant sector. Participants who are not in this age range, have a family history of hypertension, or have fewer than 5 years of professional experience are not eligible for the research. To ensure participant understanding and voluntary participation, data was collected using a structured questionnaire, blood pressure measurements with appropriate devices, anthropometric measurements (such as weight, height, and waist circumference), and informed consent forms provided in both Marathi and English.

PROCEDURE

This study examines the prevalence of hypertension among sample size of 174 professional drivers, including bus, car, and load transport drivers, from different divisions of Maharashtra. A total of 350 drivers were approached for involvement in the study, with 210 meeting the inclusion requirements and 174 readily agreeing to participate. Bus drivers were recruited by

going to their local depots and having the study properly explained. truck drivers were contacted through their different associations and car drivers were invited to participate by initially contacting the companies at which they work. Once approval was obtained from the companies, drivers were individually invited to participate in this project during their working hours. Data collection was carried out by using the interview method after the drivers completed informed consent forms, and participation was only based on their voluntary assent after being fully explained about the project.

As a method of gathering data, a questionnaire was used which contains questions to assess various factors like drinking and smoking, as well as sociodemographic and occupational traits, and self-reported anthropometric measures (height and weight) to classify BMI. Information was gathered in a designated area at the employees' place of work. In addition to questionnaire, blood pressure measurements were taken using a sphygmomanometer. Blood pressure measurements were taken after the participants were made to rest for 5 to 10 min, the pressure on the left arm was measured. Drivers were then classified as prehypertensive, hypertensive and normal based on JNC 8 hypertension classification. After collecting the necessary data, it was examined using proper statistical techniques in order to ensure accurate interpretation of the findings. The acquired data was compiled in Microsoft Excel and analysed with EpiInfo /ANOVA. The quantitative factors were reported as means, whereas the qualitative variables were described as proportions. Statistical significance was determined for quantitative variables using the Student's *t*-test. The Chi-Square test was used to determine the statistical significance of qualitative variables. All statistical tests were considered significant at a P-value <0.05.

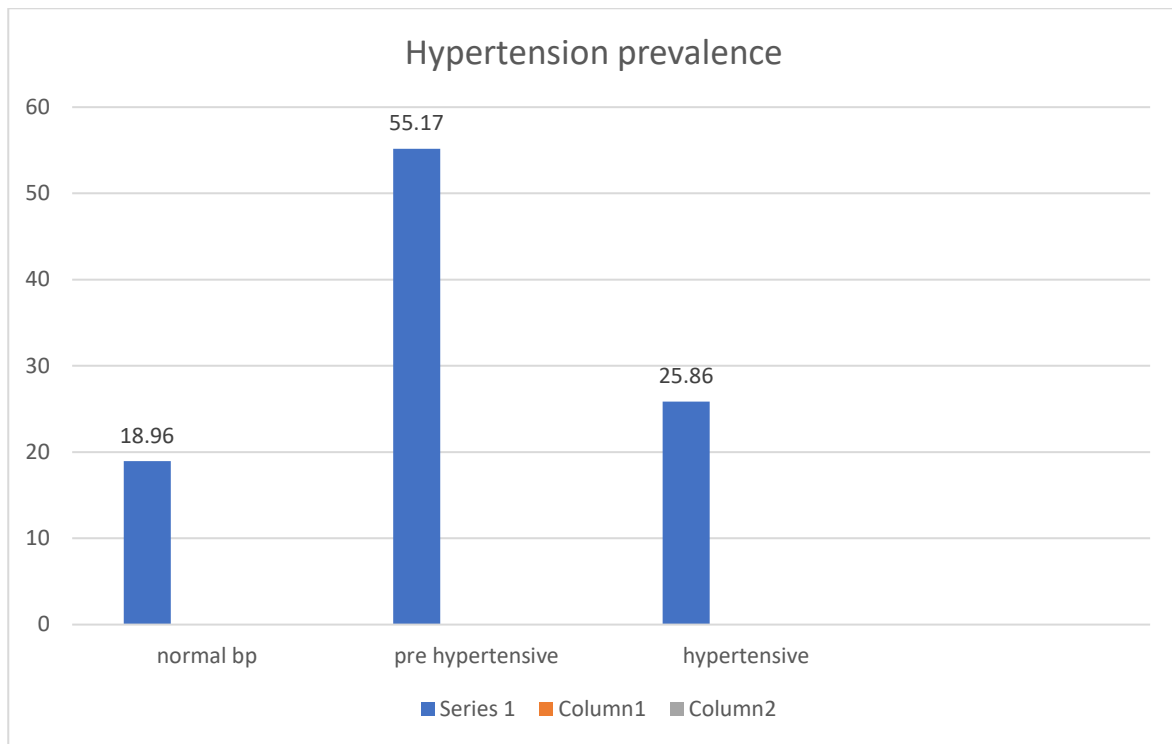
The findings were then carefully grouped and visually presented with bar graphs to help illustrate key trends and comparisons. These graphical representations gave a concise and clear summary of the data, allowing for easy interpretation and drawing significant conclusions from the study. The goal of the analysis was to find important trends and insights that could guide the goals of the study.

RESULT

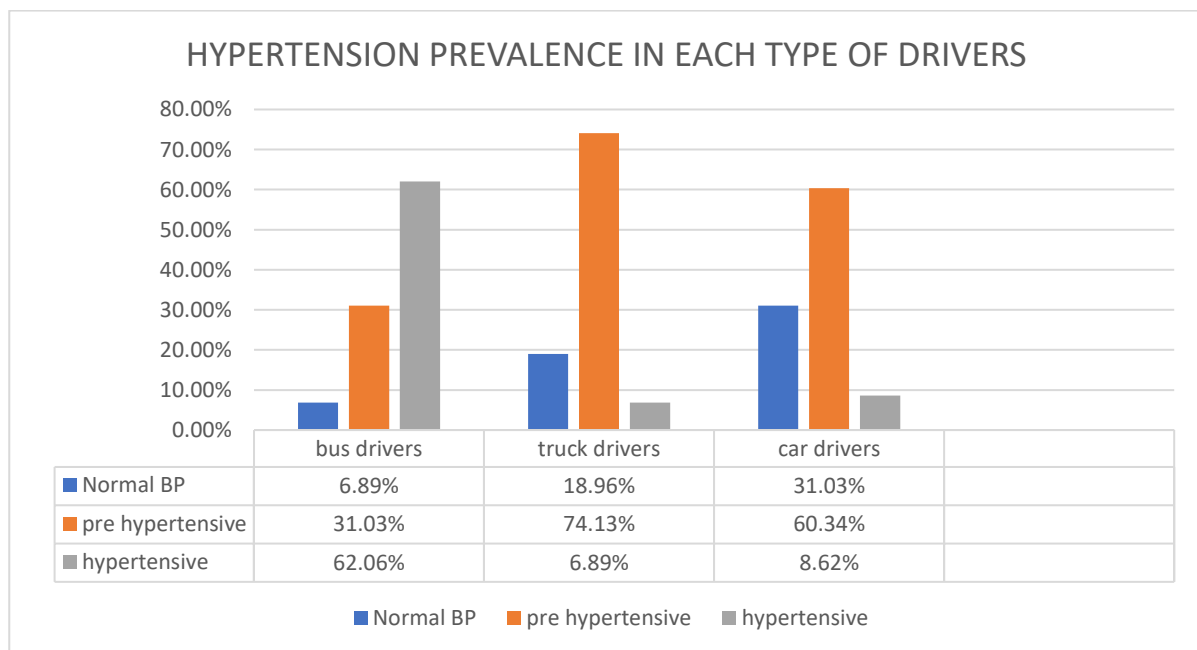
A total of 174 professional drivers participated in the study, with 58 car drivers, 58 truck drivers, and 58 bus drivers. With age groups 30-40yrs n=91 (52%) and 40-50yrs n=83 (47.7%).

Based on JNC-8 hypertension classification, drivers were classified as normal, pre hypertensive and hypertensive. The prevalence of hypertension was assessed among all three groups of professional drivers.

BP results	Count	Percentage
NORMAL BP	33/174	18.96%
PRE-HYPERTENSIVE	96/174	55.17%
HYPERTENSIVE	45/174	25.86%



TYPE OF DRIVER	NORMAL BP COUNT	%	PRE -HYPERTENSIVE COUNT	%	HYPERTENSIVE COUNT	%
Bus Drivers	4/58	6.89%	18/58	31.03%	36/58	62.06%
Truck Drivers	11/58	18.96%	43/58	74.13%	4/58	6.89%
Car Drivers	18/58	31.03%	35/58	60.34%	5/58	8.62%



Prevalence Of Hypertension Among Professional Drivers

A questionnaire was given to all the participants to record their demographic data and responses for questions related to stress factors. The first section of questionnaire consists of sociodemographic data, which is listed in following table.

	Number of subjects	Number of Pre-Hypertension	P Value	Number of Hypertension	P Value
Age					
30 - 40 yrs.	83(48%)	56 (58.33%)	0.0001	31 (68.89%)	0.001
40 - 50 yrs.	91(52%)	40 (41.67%)		14 (31.11%)	
BMI					
Normal	55 (32%)	4 (4.17%)	0.0001	10 (22.22%)	0.3603
Overweight	94 (54%)	82 (85.42%)		24 (53.33%)	
Obesity	25 (14%)	10 (10.42%)		10 (22.22%)	
Route					
Long Route	116 (67%)	60 (62.50%)	0.0001	32 (71.11%)	0.4626
Short Route	58 (33%)	36 (37.50%)		13 (28.89%)	
SLEEPING BREAKS					
YES	49 (28%)	27 (28.13%)	0.0001	14 (31.11%)	0.6093
NO	125 (72%)	69 (71.88%)		31 (68.89%)	
ALCOHOL					
YES	67 (39%)	41 (42.71%)	0.0001	12 (26.67%)	0.0580
NO	107 (61%)	55 (57.29%)		33 (73.33%)	
SMOKING					
YES	96 (55%)	50 (52.08%)	0.0001	31 (68.89%)	0.0317
NO	78 (45%)	46 (47.92%)		14 (31.11%)	
REGULAR EXERCISE					
YES	86 (49%)	47 (48.96%)	0.0001	16 (35.56%)	0.0307
NO	88 (51%)	49 (51.04%)		29 (64.44%)	
NUMBER OF YEARS OF DRIVING					
5-10 yrs.	101(58%)	60 (62.50%)	0.0002	16 (35.56%)	0.0061
10-15 yrs.	34(20%)	18 (18.75%)		11 (24.44%)	
15-30 yrs.	39(22%)	18 (18.75%)		18 (40.00%)	
DRIVING TIME PER DAY					
5-10 hrs	91 (52%)	57 (59.38%)	0.0001	24 (53.33%)	0.1839
10-15 hrs.	62 (36%)	25 (26.04%)		20 (44.44%)	
15-30 hrs	21 (12%)	14 (14.58%)		1 (2.22%)	

Interpretation:

The information shows a number of variables linked to participants' pre- and hypertension. One important factor is age; those between the ages of 40 and 50 had higher rates of pre-hypertension (58.33%) and hypertension (68.89%), which were supported by low P-values (0.0001 for pre-hypertension and 0.001 for hypertension). The majority of people in both categories are overweight, especially in pre-hypertension (85.42%), therefore BMI is also quite important, but its significance in hypertension is lower (P-value 0.3603).

Smoking and travel route have substantial correlations with lifestyle, with smokers and those on longer trips having higher rates of pre-hypertension and hypertension (P-values 0.0316 and 0.0001, respectively). Regular exercise is associated with a decreased risk of hypertension; however, only 35.56% of people with hypertension engage in regular exercise, compared to 48.96% of people without hypertension.

Additionally, pre-hypertension is correlated with alcohol intake (42.71% of drinkers), but the association with hypertension is less evident (P-value 0.0580). There are also notable variations between the two groups in the number of years spent driving and the amount of time spent driving every day; higher years and hours of driving are linked to hypertension (P-values 0.0002 and 0.0061). Driving duration per day and sleep breaks, however, do not consistently exhibit substantial correlations between the two groups. Overall, the data shows that age, lifestyle decisions, and driving behaviours are important factors in the development of pre-hypertension and hypertension, with smoking and inactivity being identified as major contributors.

The second part of the questionnaire consists of questions related to stress causing factors and is being divided into three categories as follows:

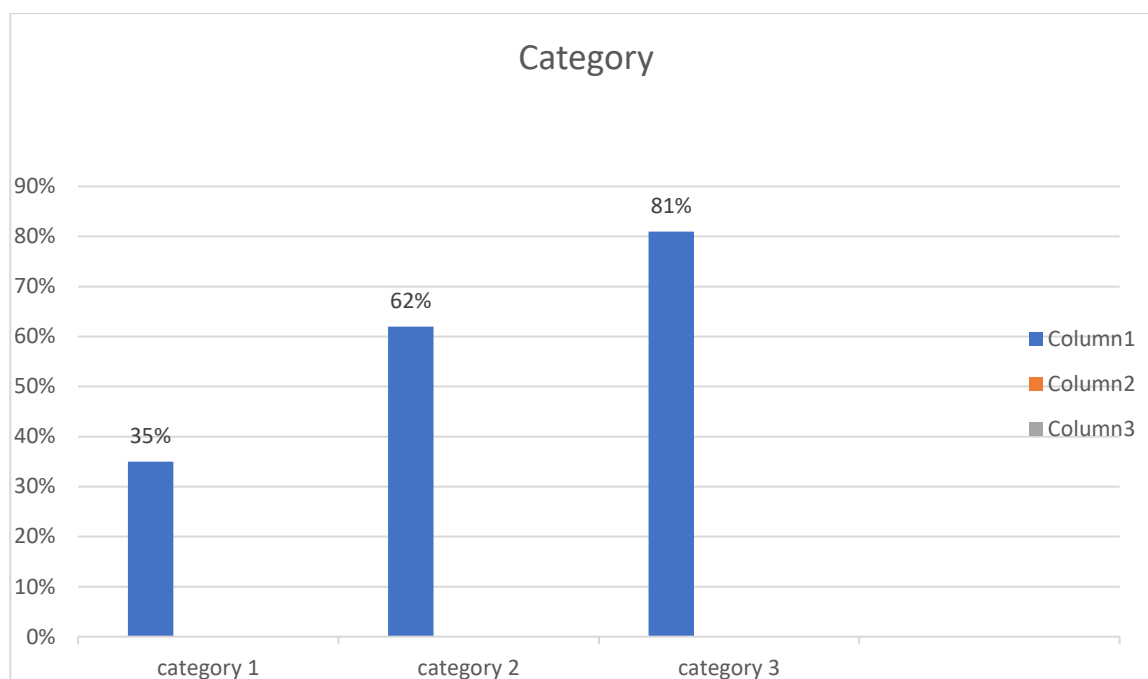
Prevalence Of Hypertension Among Professional Drivers

Scoring categories:

Category 1: It consists of question no.1,4,5 which includes stressors and risks associated with driving and is positive with responses 2 or more.

Category 2: it consists of question no.7,13,14 which includes stressors associated to work-related health and fatigue and is positive with responses 2 or more.

Category 3: it consists of question no.9,10,11 which includes stressors related to passengers and their behaviour and is positive with responses 2 or more.



Category 1: 61 (35%) had a positive response in category 1.

Category 2: 109 (62%) had a positive response in category 1.

Category 3: 142 (81%) had a positive response in category 1.

Discussion

This study aimed to assess the prevalence of hypertension among professional drivers in Maharashtra, taking into account factors such as occupational stress, lifestyle choices, and sociodemographic features. The findings found that a considerable number of professional drivers in the study, including bus, car, and truck drivers, were either prehypertensive or hypertensive, which is consistent with earlier studies highlighting this occupational group's increased risk of hypertension.

As previously stated, professional drivers frequently suffer from high blood pressure as a result of job-related stressors such as chronic time constraints, inconsistent sleep schedules, and poor eating habits. These findings are consistent with earlier research, which shows that drivers commonly experience high stress when managing big cars, people, and products. For example, Arjun Lakshman, et al's paper Prevalence and Risk Factors of Hypertension among Male Occupational Bus Drivers in North Kerala, South India: A Cross-Sectional Study emphasizes this association. Beatriz Bastos Braga et al's study on the prevalence of coronary risk factors among load transport drivers found comparable patterns. Numerous drivers in these trials reported using tobacco products, drinking alcohol, and eating poorly—all of which are known risk factors for high blood pressure. The risk of cardiovascular disease is greatly increased when these lifestyle variables are combined with the demands of their job.

According to the study's findings, professional drivers' hypertension is largely caused by work-related variables such as lengthy workdays, sedentary lifestyles, and inconsistent sleep habits. For example, drivers of buses and trucks frequently work long hours without enough time for rest or breaks, which results in fatigue, lack of sleep, and physical inactivity—all of which are established risk factors for high blood pressure. Furthermore, a lot of drivers admitted to eating fast food or unhealthy snacks while working, which further compromises cardiovascular health. The actual workplace also has an impact; exposure to exhaust fumes, noise, and traffic jams raises stress levels, which raises the risk of hypertension. The cumulative effect of these stressors can result in chronic stress, which triggers the body's stress-response systems and raises the risk of high blood pressure. These overstimulating conditions also make the work more physically and mentally exhausting.

The study discovered that 55.17% of participants were prehypertensive and 25.86% were hypertensive, which is consistent with global studies that have identified high blood pressure as a prominent problem among professional drivers. According to a comprehensive study and meta-analysis by Krishnamoorthy et al. (2017), more than one-third of drivers worldwide suffer from hypertension, which is much higher than the overall population. This study supports these findings, since a significant percentage of drivers in the sample had prehypertension or hypertension. These findings highlight the role of job-related stress and lifestyle variables, such as poor

nutrition, lack of exercise, and irregular work hours, in the development of hypertension in this high-risk occupational category.

The statistics suggest that drivers aged 40 to 50 had the greatest rates of pre-hypertension (58.33%) and hypertension (68.89%). This is consistent with prior research, such as Rike et al.'s study on long-distance truck drivers in Ethiopia and Lakshman et al.'s study on bus drivers in Kerala, which discovered that systolic and diastolic blood pressure rise with age. These data highlight the increased hypertension risk among elderly drivers.

According to the study, 85.42% of people with pre-hypertension were overweight, indicating a high correlation between the two conditions. BMI is important in the development of pre-hypertension, as evidenced by the less significant relationship between BMI and hypertension (P-value 0.3603). These results are consistent with other studies that indicate that although being overweight is a substantial risk factor for cardiovascular disease, the precise relationship between BMI and hypertension may change among populations. According to the study "Prevalence of Coronary Risk Factors in Load Transport Drivers" by Beatriz Bastos Braga, et al, 46.30% of truck drivers had medium coronary risk and 31.30% had hypertension. These findings were related to the length of the drivers' employment. Furthermore, truck drivers suffer serious health concerns as a result of their lifestyle, with 48.80% of them being physically inactive, 73.80% being overweight, and 7.50% having a high risk of diabetes. According to Arjun Lakshman, et al's study "Prevalence and Risk Factors of Hypertension among Male Occupational Bus Drivers in North Kerala, South India," a BMI of 23 kg/m², being older than 35, having more than four family members, and frequently eating out during the workday were all significant risk factors for hypertension. These variables were linked to the bus drivers' hypertension on their own.

It was shown that drinking alcohol and smoking were important contributors to the development of pre-hypertension. With a significant P-value of 0.0316, smokers were more likely to have both pre-hypertension and hypertension, confirming the documented association between smoking and high blood pressure. Alcohol use was linked to pre-hypertension, but not as strongly to full-blown hypertension (P-value = 0.0580). According to a research titled "Hypertension and Its Associated Factors Among Long-Distance Truck Drivers in Ethiopia," hypertension affected 34.7% of truckmen. Drivers 45 years of age and older, obese drivers, alcohol drinkers, and smokers were more likely to have hypertension. Additionally, there was a lower likelihood of hypertension among drivers who regularly exercised. Older age, obesity, lack of sleep between drives, smoking, alcohol use, and physical inactivity were important risk variables linked to hypertension. In order to avoid hypertension and its associated problems, our findings highlight the significance of health education that emphasizes lifestyle modifications, adequate sleep, and rest periods. These outcomes support the current study's conclusions. Furthermore, this study also found that drivers with hypertension were less likely to be physically active (35.56%) than drivers with normal blood pressure (48.96%), suggesting that regular exercise can help lower hypertension. Additionally, the study found a clear association between the length of time spent driving and hypertension, with higher driving hours and years associated

with a higher risk of high blood pressure. The study "Work Environment, Stress, and Driving Anger: A Structural Equation Model for Predicting Traffic Sanctions of Public Transport Drivers" by Luis Montoro, et al discovered significant associations between work-related factors, stress measures, and self-reported traffic fines. It demonstrated that driving rage mediates the association between stress, risk-taking, and traffic penalties, emphasizing how stress and individual characteristics can exacerbate road misbehaviour and compromise safety.

Given the high prevalence of hypertension among professional drivers, targeted health interventions are crucial to mitigate these risks. Stress management programs, including relaxation techniques, mindfulness training, and strategies to cope with workplace pressures, could significantly reduce mental strain. Promoting regular physical activity, fostering healthy eating habits, and providing counselling for smoking cessation and alcohol reduction can also greatly improve drivers' cardiovascular health. Employers and transportation agencies could help by adjusting work schedules to allow more rest breaks and reduce time spent in traffic. Routine health screenings for early detection of hypertension should be conducted, and drivers should be educated on the importance of regular check-ups and self-care practices. These measures could play a vital role in preventing the long-term complications associated with hypertension. While this study offers valuable insights into hypertension among professional drivers, it has some limitations. The sample size of 174 drivers, though adequate for initial analysis, is relatively small and may not fully reflect the diversity of drivers in Maharashtra. Future research should aim to increase the sample size and include drivers from other regions to assess the broader applicability of the findings. Additionally, studies should focus on evaluating the effectiveness of specific interventions, such as stress management programs, improved work environments, and lifestyle changes, in reducing the risk of hypertension among drivers.

Conclusion

This study emphasizes the necessity of addressing the health concerns that professional drivers confront, including the high prevalence of hypertension. Recognizing the specific challenges connected with their employment and implementing focused treatments can help to enhance the health and well-being of such an important workforce. Prioritizing driver health helps not only the person, but also public safety and leads to a more sustainable and efficient transportation industry.

REFERENCES :

- Lakshman A, Manikath N, Rahim A, Anilakumari VP. Prevalence and Risk Factors of Hypertension among Male Occupational Bus Drivers in North Kerala, South India: A Cross-Sectional Study. *ISRN Prev Med*. 2014 Apr 23;2014:318532. doi: 10.1155/2014/318532. PMID: 24971195; PMCID: PMC4045462
<https://www.sciencedirect.com/science/article/abs/pii/S193317111002385?via%3Dihub>
Conversano C, Orrù G, Pozza A, Miccoli M, Ciacchini R, Marchi L, Gemignani A. Is Mindfulness-Based Stress Reduction Effective for People with Hypertension? A Systematic Review and Meta-Analysis of 30 Years of Evidence.

Int J Environ Res Public Health. 2021 Mar 11;18(6):2882. doi: 10.3390/ijerph18062882. PMID: 33799828; PMCID: PMC8000213.

Montoro L, Useche S, Alonso F, Cendales B. Work Environment, Stress, and Driving Anger: A Structural Equation Model for Predicting Traffic Sanctions of Public Transport Drivers. Int J Environ Res Public Health. 2018 Mar 12;15(3):497. doi: 10.3390/ijerph15030497. PMID: 29534530; PMCID: PMC5877042

Braga BB, Ferreira FG, Reis HHT, Marins JCB. Prevalence of coronary risk factors in load transport drivers. Rev Bras Med Trab. 2022 Jun 30;20(2):254-261. doi: 10.47626/1679-4435-2022-695. PMID: 36127909; PMCID: PMC9458336

Owolabi AO, Owolabi MO, OlaOlorun AD, Olofin A. Work-related stress perception and hypertension amongst health workers of a mission hospital in Oyo State, south-western Nigeria. Afr J Prim Health Care Fam Med. 2012 Apr 19;4(1):307. doi: 10.4102/phcfm.v4i1.307. PMCID: PMC4565437.

Kulkarni S, O'Farrell I, Erasi M, Kochar MS. Stress and hypertension. WMJ. 1998 Dec;97(11):34-8. PMID: 9894438

Spruill TM. Chronic psychosocial stress and hypertension. Curr Hypertens Rep. 2010 Feb;12(1):10-6. doi: 10.1007/s11906-009-0084-8. PMID: 20425153; PMCID: PMC3694268