



## A CROSS-SECTIONAL STUDY FOR EVALUATION OF SELECTED EPIDEMIOLOGICAL FACTORS LINKED TO HYPERTENSION IN TRUCK DRIVERS

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### ABSTRACT:

**Background:** The nature of their profession and the workplace they operate in puts truck drivers at an increased risk of cardiovascular disorders like hypertension.

**Objectives:** Examine the chosen epidemiological variables linked to hypertension and gauge your understanding of the importance of exercise and a healthy diet in regulating blood pressure.

**Methodology:** This cross-sectional study was carried out in the central Indian market known as the Agricultural Produce Market Committee (APMC).

**Results and discussion:** The average age of truck drivers was 34 years old, and they had been driving for 6 years on average. There was a strong correlation identified between BMI and hypertension. Stage 1 and stage 2 hypertension were both prevalent in truck drivers, accounting for 45% of the population.

**Conclusion:** Numerous factors, including obesity and addiction, which are more prevalent in truck drivers, may be to blame for their hypertension. Truck drivers may also have hypertension due to a number of other issues, including inadequate sleep, an improper diet, and insufficient exercise.

**Key words:** Truck drivers, hypertension, Body mass index, Addiction, exercised.

### Introduction

Because it contributes to the development of coronary heart disease, stroke, and other vascular problems, hypertension is a chronic condition that should be taken seriously<sup>1</sup>. Being the most prevalent cardiovascular condition, it presents a significant public health risk to those in transitional socioeconomic and epidemiological situations. Approximately 20–50% of all deaths are caused by cardiovascular mortality, of which it is one of the main risk factors<sup>2-5</sup>. By 2020, cardiovascular diseases (CVDs) will account for the majority of deaths and disabilities in India, predicts the World Health Report 2002. It is estimated that 2.6 million Indians will pass away from coronary heart disease in 2020 AD, accounting for 54.1% of all fatalities from CVD<sup>6</sup>. Numerous investigations have indicated a robust association between employment characteristics and cardiovascular disease risk factors. The nature of their profession and the workplace they operate in puts truck drivers at an increased risk of

cardiovascular disorders like hypertension<sup>7</sup>. Professional drivers are frequently obese and have high blood pressure, which are significant risk factors for cardiovascular illnesses. Their line of work exposes them to a variety of risk factors, including extended periods of sitting and driving, hectic schedules, little time for breaks, traffic jams, sedentary work, and the ensuing behavioral, psychological, and physical issues<sup>8,9</sup>. Due to their unusual work schedules, long haul truck drivers may also be severely exposed to physical and mental health issues. They typically drink beer, eat at highway eateries that serve high-calorie, low-nutrient cuisine, drive for long stretches of time, get little sleep, and take medicine to remain awake<sup>10</sup>. The purpose of this study is to investigate the specific risk factors that truck drivers have in relation to hypertension.

### METHODOLOGY

In the APMC market, a cross-sectional analysis was carried out. The formula  $4pq/12$  was used to get the sample size. The study's inclusion criteria were limited to those who provided their consent and were employed as full-time truck drivers.

Exclusion criteria: Drivers and cleaners who worked part-time or occasionally were not accepted. Study period: a whole year.

#### Methodology

An involved NGO assisted in setting up the camps. A group of medical professionals performed a thorough physical examination. In a seated position, the right arm's blood pressure was monitored with a digital sphygmomanometer. A three-minute interval was used to obtain two readings, and the mean of the two was noted. The New ACC's standard guidelines for blood pressure classification were adhered to. Measurements based on anthropometry: The weight in the upright posture was measured using a calibrated balance beam scale, with a precision of 0.1 kg. Using a calibrated

Stadiometer, height was measured with the bare foot to the nearest 0.1 cm. The body mass index (BMI) was computed by dividing the square of the recorded weight by the height ( $\text{kg}/\text{m}^2$ ). The South Asian population's BMI was classed according to the World Health Organization's guidelines. Participants were given validated questionnaires covering the necessary epidemiological parameters. The definitions and conditions listed below were applied. Frequent sleep: eight hours at night is regarded as sufficient sleep. If a subject had quit smoking during the preceding year or used tobacco on a daily basis in any amount, they were classified as active smokers. If a subject had not used tobacco in the previous 12 months, they were regarded as non-smokers. Alcohol use: The term "present consumer" refers to a person who continues to drink alcohol either daily or occasionally.

#### Results:

Table 1: Blood pressure in truck drivers

Blood pressure level	Total number	Percentage
Normal: Less than 120/80 mm Hg	126	32%
120-129/less than 80	94	24%
130-139/80-89	112	28%
140 and more /90 and more	68	17%

Table 2: Knowledge of low salt diet and exercise in maintaining regular blood pressure

Knowledge	Total number	Percentage
<b>Dose low salt diet has good effect on BP?</b>		
Yes	40	10%
No	244	61%
Don't know	116	29%
<b>Does regular exercise will have good effect on BP?</b>		
Yes	156	39%
No	70	17%
Don't know	174	44%

Of the 400 truck drivers, it was found that 16.5% were under 25 and 51% were between the ages of 26 and 35. Merely 15.5% of the population was between the ages of 36 and 45, while 17% was above 45. The average age was thirty-four. There were 4% single people and 96% married. The drivers were all men. A total of 126 truck drivers, or 32% of the sample, had normal blood pressure, or less than 120/80 mm Hg. Systolic blood pressure was

between 120 and 129, and diastolic blood pressure was under 80 in 23.5% of cases. 28% of truck drivers and 17% of drivers with stage 2 hypertension (systolic at least 140 or diastolic at least 90 mm Hg) had stage 1 hypertension (systolic between 130-139 or diastolic between 80-89). Truck drivers' body mass index (BMI): 28% had a BMI between 25 and 29.99, while 48% had a BMI between 18.5 and 24.99. Truck drivers' BMI ranged from 30 to 34.99

for 13% of them and from 35 to 39.99 for 8.5% of them. Six truck drivers, or 3%, had a BMI higher than 40. It was discovered that 220 of the 338 truck drivers with a history of addiction were routinely consuming alcohol and smoking cigarettes. 118 of them occasionally smoked and drank. Ten had a history of sporadically using different forms of addiction. Awareness of the role that exercise and diet play in preventing hypertension: 10% of truck drivers claimed that a low-sodium diet can lower blood pressure in people with hypertension. A low-sodium diet has no effect on lowering blood pressure, according to 61% of respondents, and 29% were unaware of the connection between the two. Regarding the impact of exercise on hypertension, 39% of respondents indicated that it has a beneficial effect on lowering or controlling blood pressure, while 17.5% disagreed. 43.5% of respondents had no knowledge of the query posed.

#### DISCUSSION

The work profile and working conditions of truck drivers constantly put them at risk of non-communicable disorders including hypertension. According to our research, truck drivers' average age was 34 years old, and they had an average of 6 years of driving experience. Comparing these two variables to hypertension revealed that they were not statistically significant<sup>11</sup>. There was no correlation between hypertension and the 96% of married people and the 4% of single people (chi square 8.520,  $p = 0.036$ ). According to a study by Udayar SE, et al., the study subjects' mean age ranged from 20 to 60 years old. 39% of the respondents were older than 45. 214 individuals (86.71%) had ever been married. The American College of Cardiology divided hypertension into stages 1 and 2, with a prevalence of 45% among truck drivers. 23.5% of truck drivers had elevated blood pressure, previously known as prehypertension<sup>12</sup>. They had no idea what their standing was. The findings of our study are comparable to a study by Pawan Kumar et al. that found that 45.76% of truck drivers had hypertension. Truck drivers' body mass index: 28% of drivers are overweight, while 48% of drivers had normal BMIs. Of the 24.5% of obese truck drivers, 13% were categorized as obese I, 8.5% as obese II, and 3% as obese III. Significant evidence was discovered linking BMI to hypertension ( $p < 0.000$ ,  $df = 12$ , chi value: 49.228). Udayar SE et al.'s study from 2014 demonstrates the same conclusion. ( $p < 0.005$ )

Truck drivers have been discovered to be very susceptible to addiction<sup>13</sup>. Of the 400 drivers, 376 (94%) had a history of alcohol or tobacco use, and 10 had a history of drug or other addiction. In truck drivers, we did not discover any conclusive evidence linking addiction to hypertension. A strong correlation between BMI and hypertension was found ( $p < 0.000$ ,  $df = 12$ , chi value: 49.228). The 2014 study by Udayar SE et al. supports the same finding. ( $p < 0.005$ ) It has been found that truck drivers are very prone to addiction<sup>14,15</sup>. Ten had a history of drug or other addiction, and 376 (94%) of the 400 drivers had a history of alcohol or tobacco use. We were unable to find any solid evidence connecting addiction to hypertension in truck drivers.

#### CONCLUSION

According to this study, truck drivers have a higher prevalence of hypertension than the whole population. Numerous factors, including obesity and addiction, which are more prevalent in truck drivers, may be to blame for their hypertension. Truck drivers may also have hypertension due to a number of other issues, including inadequate sleep, an improper diet, and insufficient exercise. We need to conduct larger-scale research before we can say with certainty that these factors cause hypertension in truck drivers. According to this study, truck drivers are more likely to be ignorant about health issues and to downplay the significance of nutrition and exercise. This suggests that providing health education to them could be one area in which we concentrate on improving their health. Our study's sample size of truck drivers is too small to extrapolate our findings to the entire truck driving community.

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