



## Awareness of Cardiovascular Risk Factors among Traffic Police Personnel In Metropolitan City in South India

<sup>1</sup>Thapashwi B G, <sup>2</sup>Mohammed Hafeez\*, <sup>3</sup>Faseeh Kak Mohiddina, <sup>4</sup>Emad Mir Abbas, <sup>5</sup>Balwant Singh, <sup>6</sup>Haleemath Thabsheera, <sup>7</sup>Vikram Loona, <sup>8</sup>Shivani S Prasad, <sup>9</sup>B R Shivakumar  
<sup>1,5,6,7,8</sup> Post Graduate, <sup>2,3</sup> Assistant Professor, <sup>4</sup> Senior Resident, <sup>9</sup> Professor,  
Department Of General Medicine, Dr. B. R. Ambedkar Medical College, Bengaluru

**\*Corresponding Author:**  
**Mohammed Hafeez**

Assistant Prof, Dept of General Medicine, Dr. B. R. Ambedkar Medical College, Bengaluru

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### Abstract

#### Introduction:

Cardiovascular disease (CVD) is the leading cause of death and morbidity across the globe. One of the many dangers for these NCDs is police officers, who work long shifts and are subjected to a variety of additional stresses and strains.

**Objective:** The study aims to access and understand the awareness and knowledge about CVDs among traffic police personnel.

**Method:** A cross sectional study was conducted in Bengaluru among the traffic police officers of the city, data collection was done using a questionnaire which was prepared prior.

**Results:** Of the total 50 participants 60% of the participants had adequate knowledge of CVDs, while only 38% had good practices towards measures preventing CVDs such as healthy lifestyle.

**Conclusion:** Traffic police officers being at risk for developing CVDs should be educated regarding the risks and mitigation of CVDs and promote a healthy lifestyle.

**Keywords:** cardiovascular diseases, traffic police personnel, physical activity

### INTRODUCTION

The leading cause of death and morbidity in the world is cardiovascular disease (CVD). The CVD burden continues to increase in emerging nations, particularly India, as a result of the epidemiologic shift. As a consequence, cardiovascular disease (CVD) has risen to become India's top cause of mortality, with Indians suffering from coronary heart disease (CHD) at least 5-6 years sooner than their western counterparts. [1,2]

According to the World Health Organization, India is responsible for one-fifth of all global fatalities, particularly among the young. According to the findings of the Global Burden of Disease research, India has a significantly higher age-standardized CVD mortality rate of 272 per 100,000 people than

the global average of 235. CVDs hit Indians ten years before they strike the rest of the world. [3,4]

Longer work hours, longer commutes, and less leisure time for recreational activities may be linked to the industrialization of the economy, which has resulted in a shift from physically demanding to sedentary jobs, as well as a technology-driven culture linked. Over time, individuals in certain occupational categories are more likely to acquire heart disease than those who are not exposed to the specific exposure at work. Officers of the law are one such group. A variety of factors contribute to this, including an irregular diet, restricted food choices while on duty, disturbed sleep patterns, stress, and increased cigarette and alcohol use rates. As a result,

this research was carried out to evaluate cardiovascular disease knowledge, attitude, and practise.

## AIMS AND OBJECTIVES

To evaluate traffic police officers' knowledge and awareness of cardiovascular illnesses (hypertension, myocardial infarction, stroke) and lifestyle habits in Bengaluru.

## METHODS AND MATERIALS

On February 5, 2020, a cross-sectional research was performed in Bengaluru, Karnataka, using traffic police officers as the target demographic. The study's date, location, and time were all announced well in advance. A healthy heart questionnaire was employed to evaluate cardiovascular disease awareness. This research enlisted the participation of 50 traffic cops between the ages of 20 and 50, all of whom gave their informed consent.

## RESULTS

While none of the 50 participants in the research were under the age of 19, 27 (54%) belonged to the age group 40-49 years, 16 (16%) to the age group 30-39 years, and only 7 (14%) to the age group 20-29 years. Only 38% of the participants had excellent practises for CVD prevention, such as a healthy lifestyle, whereas 60% of the participants had adequate knowledge of CVDs.

### Symptom awareness

Out of the questions regarding stroke common symptoms such as sudden confusion and trouble speaking, numbness or weakness were known to 42% of the participants. Only 18% of the participants were aware that unexpected difficulty walking, dizziness or loss of balance, and severe headache may all be signs of a stroke. While 62 percent were aware of signs of a heart attack such as chest pain or discomfort, just 30% were aware of pain or discomfort in the arm or shoulders as a symptom of a heart attack. [Table 1]

### Knowledge on staying healthy

4% of the participants knew about BMI, 20% were aware that BP of more than 140/90 mmHg as high. 80% were unaware of the benefits of heart healthy diet for cardiovascular diseases. [Table 2]

## Attitude towards CVDs

12 participants had never checked their blood pressure in the last 5 years while 36 of them had their blood pressure monitored in the last one year.

## Practices to prevent CVDs

Among the total group, 54% of them did not perform any vigorous physical activity while 40% of the participants performed moderate physical activity and 20% of them did not perform any physical activity. [Table 3]

## DISCUSSION

In our literature research, we identified no study that evaluated this group's knowledge, attitude, or practise. However, studies have shown that police personnel are at risk of developing cardiovascular diseases.[8,9,10] Law enforcement is a high-stress job that has been linked to an increase in cardiovascular disease prevalence and incidence. According to epidemiological research, police officers and other members of the public safety community have a higher risk of cardiovascular morbidity and death. Traditional risk factors such as hypertension, hyperlipidemia, metabolic syndrome, cigarette smoking, and a sedentary lifestyle are all common among current police officers. Obesity may be more prevalent among police officers than among civilians, but diabetes is less common.[5,6]

This research was carried out to see how they reacted to the situation. Because this would give us knowledge that would assist us in identifying the gaps and focusing on them.

W D Franke's study looked at the links between exercise habits, physical fitness measurements, and 10-year cardiovascular disease risk among 470 law enforcement personnel of various ages, with just 32% of this group exercising consistently.[7]

Shabana Tharkar et al. discovered a significantly higher incidence of metabolic syndrome, hypertension, and diabetes among police officers as compared to the general population.[8] Police officers' lifestyle studies revealed a high incidence of alcohol and smoking addiction, indicating that they operate under extreme strain and stress, which has a major impact on the development of CVDs.[9] Therefore the study reveals that this occupational

group has a very high risk for development of cardiovascular disease.[10]

Police officers are at danger of acquiring cardiovascular illnesses, according to studies.[8,9,10]

In this study, although there was a favourable connection between awareness and attitude in this research, the individuals lacked excellent habits. They were fully aware of stroke, hypertension, and myocardial infarction symptoms, yet they failed to live a healthy lifestyle. The causes for this were not investigated in this research, although they may include a lack of time, night shift work, an irregular diet, and a lack of nutritious meal options owing to working circumstances. According to the findings of this research, the examined participants' knowledge,

attitude, and practise about cardiovascular disease risk factors were insufficient, necessitating intervention.

**CONCLUSION**

Our research found a disconnect between traffic cops cardiovascular health knowledge, attitude, and practice/ behaviour. This issue is exacerbated by the nature of the job and a lack of knowledge. Unfortunately, a group that is chosen based on exceptional physical fitness and subjected to rigorous training fails to retain it, owing to lengthy working hours and night shift employment. As a result, more active health promotion and frequent screening in short interventions among police officers should be promoted.

**TABLES**

**Table 1: Depicts the awareness of CVD symptoms in the study group**

<b>Awareness of Stroke symptoms among participants</b>		
<b>Symptom</b>	<b>n</b>	<b>Percentage</b>
Sudden confusion or trouble speaking	21	42
Sudden numbness or weakness of face, arm, or leg	21	42
Sudden trouble walking dizziness, or loss of balance	9	18
Severe headache	9	18
<b>Awareness of Heart Attack symptoms among participants</b>		
<b>Symptom</b>	<b>n</b>	<b>Percentage</b>

Pain, discomfort in the jaw, neck or back	18	36
Chest pain or discomfort	31	62
Pain or discomfort in the arms or shoulders	15	30
<b>Awareness of Hypertension symptoms among participants</b>		
<b>Symptom</b>	<b>n</b>	<b>Percentage</b>
Dizziness	20	40
Palpitations	12	24
Headache	17	34

**Table 2: Responses of questions related to staying healthy**

Item	Question	Correct Response	N = 50 (%)
1	Can a large waist (>35 inches for women or > 40 inches for men) increase your risk of heart attack?	Yes	25 (50%)
2	Can the Body Mass Index (BMI) Chart tell you if you are overweight?	Yes	2 (4%)
3	Does your liver make all the cholesterol your body needs to keep you healthy?	Yes	11 (22%)
4	Can eating foods that are high in sodium increase your risk of high BP?	Yes	30 (60%)

5	Does MEAT have a low amount of saturated fat (Bad Fat)?	No	2 (4%)
6	Can eating too much saturated fat and trans-fat / Bad fat raise your cholesterol level?	Yes	25 (50%)
7	Is a BP of 140/90 mmHg considered high?	Yes	25 (50%)
8	Can being overweight or obese put you at the risk for developing high blood cholesterol?	Yes	34 (68%)
9	Is being physically active a way to reduce your risk for heart disease?	Yes	40 (80%)
10	Is it true that only people with high blood cholesterol should follow a heart healthy diet?	No	10 (20%)

**Table 3: Shows the frequency of moderate and vigorous physical activity among the study group**

Frequency of moderate physical activity			Frequency of vigorous physical activity		
	n	Percentage		n	Percentage
Never	10	20%	Never	27	54%
Once a week	2	4%	Once a week	1	2%
Twice a week	5	10%	Twice a week	4	8%
Thrice a week	11	22%	Thrice a week	5	10%
Four times a week	2	4%	Four times a week	2	4%
Five times a week	2	4%	Five times a week	2	4%

Six times a week	1	2%	Six times a week	0	0%
Daily	17	34%	Daily	9	18%

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