



Original Research Article

PREVALENCE OF HYPERTENSION AND CARDIOVASCULAR DISEASE RISK FACTOR AMONG EMPLOYEES WORKING IN KARNATAKA STATE ROAD TRANSPORT CORPORATION, KOLAR. A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Buses is the most important mode of transport in India and takes more than 90% of public transport and serve as a cheap and convenient mode of transport for all classes of society. Irregular work timings may contribute to work- related stress along with lack of adequate or continuous sleep, insufficient breaks for rest between shifts, with bad eating habits. Long working hours, inability to attend family and social events, separation from family and friends are among characteristic occupational drawbacks of most occupations, among these people. **Objectives:** To find the prevalence of health of employees working in Karnataka Road transport corporation, Kolar.

Materials and Methods: This was a cross sectional study conducted over a period of 6 months. We included all the KSRTC workers working in Srinivasapura taluks of Kolar districts Karnataka, India. Sample size was calculated to be 130.

Results: Study shows that among the 130 KSRTC ,113(87.6%) were males and 17(12.4%) were females. The mean age of the study subjects was 42.4 ± 10.22 years. 10(7.6%) were known hypertensive ,7(5.3%) were known diabetes,14(10.7%) were having both hypertension and diabetes.

Conclusion: The periodic appropriate medical examination of the people working in the transport sector is necessary as chronic condition Increase as age advances. As the transport employees work in stressful condition maintain of their health is of priority to prevent acute medical events during their working hours.

Keywords: Ksrctc workers, occupational health, stress.

INTRODUCTION

Buses is the most important mode of transport in India and takes more than 90% of public transport and serve as a cheap and convenient mode of transport for all classes of society. People employed in the road transport department, such as Karnataka State Road Transport Corporation (KSRTC) which is the largest public transport corporation in Karnataka. Bus drivers have to deal with the pressure of time, the responsibility of the passenger's welfare and safety.^[1,2] Occupational stress can be defined as "harmful physical and emotional responses that occur

when job requirements do not match the capabilities, resources or needs of the worker".^[3]

Irregular work timings may contribute to work-related stress along with lack of adequate or continuous sleep, insufficient breaks for rest between shifts, with bad eating habits. Long working hours, inability to attend family and social events, separation from family and friends are among characteristic occupational drawbacks of most occupations, among these people. The most common health problems faced by drivers are exhaustion, back pain, obesity, cardiovascular, musculoskeletal and respiratory

diseases, stress owing to work factors, lack of exercise, unhealthy diet etc.^[2]

Periodic health examination of such employees in transport occupation is important to detect such condition early and their health and maintain health in occupation. Organised periodic examination followed by treatment and rehabilitation is lacking in their sector. External agencies are requested by transport corporation to carry out quick medical examination in their depot which is usually not well organised. A survey was undertaken to assess the health status of the people employed in KSRTC in Kolar.

Objectives

1. To study the risk factors for cardiovascular diseases among KSRTC workers.
2. To find the prevalence of hypertension and Diabetes among employees working in Karnataka Road transport corporation, Kolar.

MATERIAL AND METHODS

Study design and study period: This was a cross sectional study conducted over a period of 6 months.

Inclusion Criteria: We included all the KSRTC workers aged more than 20 years and employed for minimum duration of 1 years Srinivaspura taluks of Kolar districts Karnataka, India.

Sample size was calculated to be 130.

Study place: Srinivaspura Bus depot in separate room allotted for interview, clinical examination, blood collection, ECG

Study method: With prior permission from the depot management in taluks headquarters of Kolar, to screen for employees working in the respective depot on specified day. Employees was intimated to utilize the medical screening facilities in their respective depot.

A Pre-structured proforma containing questionnaire was used for data collection regarding sociodemographic profile, smoking, alcohol tobacco and betel nuts consumption. Presence of pre-existing disease condition like diabetes, hypertension, asthma, musculoskeletal disorders and treatment aspects was obtained. Height, weight, blood pressure, and blood investigation was done to fine random blood sugar measurement, Lipid profile were taken and was measured using standard methods. Estimation of CVDs using Framingham risk score (FRS).^[8] BP was measured manually using a mercury column sphygmomanometer and stethoscope by the auscultatory method. The subject was seated comfortably for at least 15 minutes before BP recording. Two readings were taken one before and one after the interview, and the two were at least 15 minutes apart. The average of two readings corrected to nearest integer was taken as the BP. The health profile of the employees was submitted to the management of depot with appropriate referral where ever necessary. FRS was used to calculate CVDs risk

factors using lipid profile. i.e total cholesterol and Serum HDL and BMI and classified in table 1.

Table 1: Cardio vascular disease risk classification using FRS

Risk level	FRS (%)
Low	<10
Intermediate	10-19
High	>20

Statistical Analysis: Data was coded and entered into epi-data and statistical analysis was done using SPSS version 22.

RESULTS

The current study was a cross sectional study conducted among KSRTC workers in Kolar district. The present study shows that among the 130 KSRTC ,113(87.6%) were males and 17(12.4%) were females. The mean age of the study subjects was 42.4 ± 10.22 years. Most of them were Hindu by religion and 71.5% were married .10(7.6%) were known hypertensive ,7(5.3%) were known diabetes,14(10.7%) were having both hypertension and diabetes. About 10.7% were self-reported with Musculoskeletal problem (Back Pain).

The various risk factors were assessed and it was found that 35.7% were in pre obese and with increased waist hip circumference. Higher proportion of KSRTC workers had raised total cholesterol level, triglyceride level and lower HDL level. Calculated odds ratio revealed that KSRTC bus drivers had higher odds of having risk factors for CVDs. About 33.9% were newly detected with hypertension and 15.38% were newly detected with diabetes. The association between HTN and various sociodemographic, dietary risks factors as shown in table 4. However, on assuming the level of significance there is an increased association between risk factors (smoking, alcohol, physical activity, lack of sleep and lipid profile) and hypertension. (P value < 0.001). [Table 2]

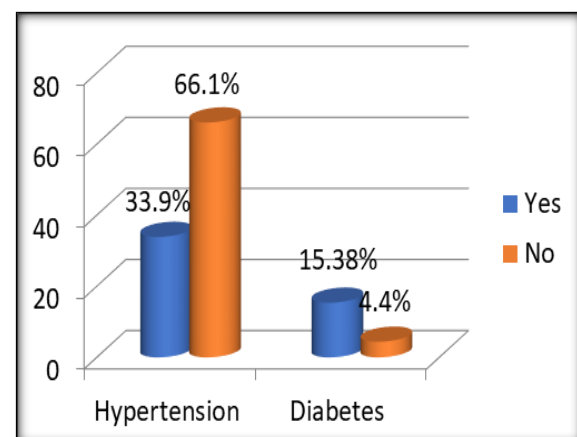


Figure 1: Bar diagram showing the distribution of hypertension and diabetes among KSRTC worker

Table 2: Socio demographic details of KSRTC workers

Sl no	Socio demographic profile		Frequency	Percentage
1	Age in years	25-34	53	41.1
		35-44	47	36.4
		45-54	26	20.2
		>55	3	3
2	Religion	Hindu	70	60
		Muslim	32	24.2
		Christian	28	21.5
3	Marital Status	Married	93	71.5
		Unmarried	37	28.46
4	Type of work	Drivers and conductors	90	69.2
		Office worker	20	15.3
		Cleaner+sweeper	7	5.3
		Others	13	13
5	Self-reported diseases	Hypertension	10	7.6
		Diabetes	7	5.3
		Musculoskeletal problem (Back Pain)	14	10.7
		Diabetes +hypertension	8	6.1

Table 3: Risk factor for Non-communicable disease among KSRTC workers

Sl no	Risk factors		Frequency	Percentages
1	BMI	Underweight	4	2.3
		Normal	40	31
		Overweight	26	20.2
		Obese-	46	35.7
		Pre obese	14	10.9
2	Waist – Hip circumference	<0.85	80	61.8
		>0.85	50	38.2
3	Smoking	Yes	44	33.9
		No	86	66.1
4	Alcohol	Yes	20	15.38
		No	110	84.6
5	Tobacco and betelnut chewing	Yes	29	22.3
		No	101	77.6
6	Lipid profile	Low	66	50.7%
		Intermediate	45	34.6%
		High	19	14.6%

Table 4: Association between Risk Factors and hypertension among KSRTC workers

Risk factors	% Population	% HTN	P value
Smoking			0.001
Yes	33.9	33.8	
No	66.1	3.07	
Alcohol			0.001
Yes	15.38	19.2	
No	84.6	15.3	
BMI			0.885
Underweight	2.3	0.76	
Normal	31	12.3	
Overweight	20.2	7.6	
Obese-Pre obese	35.7	9.2	
Obese	10.9	3.8	
Physical activity			0.001
Adequate	16.3	16.1	
Inadequate	83.7	17.6	
Sleep			0.001
Adequate	72.1	33.84	
Inadequate	27.9	7.6	

DISCUSSION

The present study shows that among the 130 KSRTC ,113 (87.6%) were males and 17 (12.4%) were females. The mean age of the study subjects was 42.4 ± 10.22 years. 10 (7.6%) were known hypertensive ,7 (5.3%) were known diabetes,14 (10.7%) were having both hypertension and diabetes. Sheethal MP and others showed that, among the 1658 KSRTC workers,102 (92.73%) were men and 8 (7.27%)

women. The mean age of the study subjects was 42.4 ± 10.22 years. 110 (6.63%) of them were known hypertensive subjects.^[3]

This present study shows that among 130 KSRTC drivers ,44 (33.9%) were hypertensive, and 86 (66.1%) were having normal BP. A study by Arjun Lakshmann and others showed that among 179 bus drivers studied, 16.8% (30/179) had normal BP, 41.9% (75/179) had prehypertension, and 41.3% (74/179) had hypertension.

A study done by Sudir prabhu showed that 57.66% of them were of normal BMI, and 33.87% were overweight. Obesity is the risk factor for cardiovascular disease.^[5] According to a study done by Morris et al. drivers were twice more likely to die from cardiovascular disease due to mental strain and the sedentary nature of work.^[6] Ragland et al in their study on drivers showed that the incidence of hypertension was more among drivers than the general population.^[7] A study by Nasri et al showed bus drivers have significant higher means of cholesterol, LDL, and triglycerides and lower HDL levels.^[8]

CONCLUSION

The present study showed that Irregular work timings may contribute to work-related stress along with lack of adequate or continuous sleep, insufficient breaks for rest between shifts, with bad eating habits. About 33.9% were found to be hypertensive and risk factors like smoking alcohol lipid level, physical activity were found to be significant.

Action and recommendation

1. Awareness regarding cardiovascular health among KSRTC bus drivers is essential
2. The periodic appropriate medical examination of the people working in the transport sector is

necessary as chronic condition Increase as age advances.

3. As the transport employees work in stressful condition maintain of their health is of priority to prevent acute medical events during their working hours.

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