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Morbidity profile of long distance truck drivers in Hyderabad city, India

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Abstract

Context—Truck drivers in India suffer from multiple health problems related to their long travelling and inadequate rest hours.

Aims—The objective was to study the health problems and risk factors in a sample of truck drivers in Hyderabad city.

Materials and Methods—A cross-sectional study was conducted during June 2011 among 59 truck drivers from a transport company, who were interviewed using a pretested proforma and examined by trained investigators. Lab results and medical consultations were provided the following day. Results were analyzed using Microsoft Access software.

Results—The mean age of truck drivers was 28.46 ± 9.3 years. 54% suffered from low backache, 16.95% from visual problems, 45.76% had hypertension, 8.47% had anemia and 30.51% had high-risk body mass index. The prevalence of risk factors for metabolic disorders was lower compared to the general population.

Conclusion—Proper road and job policies for truck drivers should be framed, aiming at subjecting them for periodic health evaluations to detect the diseases early.

Keywords

Anemia; body mass index; morbidity; musculoskeletal diseases; stress; truck drivers

Introduction

Truck drivers in India have to travel long distances in their lifetime, on an extensive spread of National and State highways that range from well-engineered roads to a complete absence of concrete roads. Their occupation predisposes them to a multitude of risk factors such as prolonged sitting and motor vehicle driving, tight running schedules, reduced rest breaks, traffic congestion, the sedentary nature of job,^[1] and resultant physical, psychological and behavioral problems. Research on long distance drivers from the Western countries too has established the presence of musculoskeletal and ergonomic problems, stress related

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manifestations, fatigue and insomnia-related problems, as well as poor sexual and reproductive health.^[2,3]

Most of the research done on this population in India has only focused on their sexual health and very few studies^[1,4] have been done till date to understand the other morbidities among them. Moreover, there are no special programs, except the National AIDS Control Program, to address the common health problems of this special population. Thus, the present study was designed with the objective to study the morbidities and risk factors for chronic diseases among long distance truck drivers in one transport company in India. It was felt that the results of this study would help to strengthen the database of common morbidities requiring attention among this population and would serve as an impetus for designing favorable job policies for them.

Materials and Methods

The present cross-sectional study was undertaken during June 2011 at a transport company in Hyderabad city of Andhra Pradesh. Ethical clearance for the study was provided by the Institutional Ethical Committee. Sixty long distance male truck drivers were available during the study period out of 83 truckers employed by the company. Fifty-nine of them, who consented for participating, were included in the study that was feasible with the given resources. A team of three trained investigators collected data on age, duration of present occupation and common morbidities and addiction to tobacco and alcohol^[4] using a predesigned proforma and conducted a detailed physical examination. Height, weight, waist and hip circumferences were recorded as per standard protocols.^[5] Body mass index (BMI) and waist-hip ratio (WHR) were calculated and classified.^[6-8] Blood pressure (BP) was measured in right arm in sitting a position using Omron digital machine. Three readings were taken at 5 min interval and the lowest of the three was recorded. Visual acuity was done using Snellen's charts and color vision was assessed using Ishihara charts. Blood samples were collected in plain tubes and transported to the laboratory at Mediciti Institute of Medical Sciences for blood analyses. Reports for hemoglobin levels, complete blood picture, blood sugar levels and thyroid status were provided to the participants the following day of examination and cases needing medical attention were referred for appropriate care to a tertiary care hospital.

Data were entered in Microsoft Office Excel 2010 and was analyzed using Microsoft Office Access 2010 program. Descriptive statistics for various parameters are reported in the present paper.

Results

A total of 59 male truck drivers was studied. The response rate was 98.33%. Their ages ranged from 18 to 55 years having a mean ($\pm$ standard Deviation) of 28.46 ± 9.3 years. The average number of years spent in their present occupation was 17.40 ± 10.18 years. 92.24% of them were married. None was illiterate, 26.83% had primary education and another 43.2% had completed middle school. The common morbidities reported by them are shown in Table 1. Overall, a high proportion of the drivers were found to be suffering from some

morbidity. 26 (44.07%) were chronic smokers, 28 (47.46%) used chewable tobacco products while 34 (57.63%) were found to be addicted to alcohol.

Anthropometry and body mass index

The mean weight of the drivers was 57.62 ± 10.98 kg and mean height was 162.46 ± 14.81 cm. The average BMI was 21.99 kg/m^2 . Their mean waist and hip circumferences were 87.44 ± 7.95 cm and 77.67 ± 10.39 cm, respectively. 19 (32.20%) of them had waist circumference (WC) >90 cm suggestive of high risk for metabolic disorders [Table 2].^[6] The average WHR was calculated to be 1.13, with 56 (94.92%) of them having a high WHR of >1.0 suggesting intra-abdominal fat accumulation.^[8]

Vision

Ten (16.95%) drivers were found to have visual impairment in either of the better eye upon testing visual acuity, according to the WHO criteria. Three (5.08%) drivers had visual impairment of both eyes. Only 5 (38.46%) drivers were found to be using spectacles for corrected vision. None of the drivers were found to be color blind.

Hypertension

Sixteen (25.42%) drivers had high systolic blood pressure (SBP), whereas 11 (16.95%) had high diastolic blood pressure (DBP) as per JNC- VII criteria. Four (6.78%) had both raised SBP and DBP; one had stage 2 hypertension. None of them were aware of their status and were not taking any medication for maintaining BP goals. The prevalence of prehypertension among the remaining drivers was also high with 28 (65.12%) having SBP between 120 and 139 and 14 (29.17%) having DBP between 80 and 89 mm Hg. Overall, only 15 (25.42%) drivers had a normal SBP and 34 (57.63%) had a normal DBP.

Blood picture and anemia

Five (8.47%) of them were found to be anemic having a mean Hb level of 10.5 g/dl. The mean Hb level of the remaining drivers was 15.13 ± 1.34 g/dl. The mean packed cell volume (PCV) was 45.51%. However, six drivers were discovered to have low PCV ($<42\%$), whose mean was 36.28% (range: 15.4-41.3). The mean corpuscular hemoglobin was 30.22 picograms and mean corpuscular hemoglobin concentration was 32.79 g/dl. The mean platelet count was 2.56 ± 0.56 cells/cu.mm. White Blood cell count was found to be 7259.32 cells/cu.mm and lymphocyte count was $36.37\% \pm 6.23\%$. The peripheral smear examination revealed microcytic hypochromic red blood cells among six drivers, three of whom had Hb concentration of <13.0 g/dl. Eosinophil count was high in 14 (23.73%) drivers, the average being 8.43%, whereas it was 4.31% for the remaining drivers.

The mean fasting blood sugar (FBS) was 84.32 ± 37.3 mg%; three drivers had FBS >100 mg % and 2 (3.39%) had diabetes. The thyroid profile of all drivers was normal. The mean T3 was 112.17 pg/ml (range: 73.2-158.0), T4 was 9.15 ng/dl (range: 2.83-13.7) and thyroid stimulating hormone was 1.61 μ IU/ml (range: 0.1-4.29).

Discussion

We found that a large proportion of truck drivers suffered from some morbidity and that the prevalence of common problems such as musculoskeletal and visual has not reduced compared to previous years. Past researches have reported the prevalence of musculoskeletal problems, watering from eyes, cough, breathlessness and dermatological conditions to be 77%, 19%, 25%, 27% and 18%, respectively,^[4] somewhat similar to our findings. The prevalence rate of 54% low backache in the present study is similar to 62% reported by Borle *et al.*^[1] The occurrence of multiple ailments which are primarily posture related are well-explained by the fact that long distance truck drivers are continuously exposed to whole body vibrations of low grade which cause resultant nervousness, fatigue, local injuries and inflammation of bones and joints. The high prevalence of gastric problems, especially acid peptic disease, may be caused due to irregular food habits, coupled with tobacco and alcohol addiction among this population.

The prevalence of risk factors for metabolic syndrome was also found to be high in the present study, with >30% drivers having high BMI and WC and >90% having high WHR compared to the general Indian male population, where 24.5% have been reported with high BMI and 57.4% with truncal obesity,^[9] and 9.4% with high WHR^[10] indicating the sedentary lifestyle of the drivers. The prevalence of other risk factors for coronary heart diseases reported by Gupta *et al.*^[9] from among 960 males in Jaipur were smoking/tobacco use in 36.5%, hypertension in 36.4% and diabetes in 13.1%, which is comparable to our findings. Kartikeyan *et al.*^[4] too have reported a high prevalence of tobacco chewing and alcohol addiction similar to our results, but they found a lower prevalence of hypertension and diabetes among truckers. Misra *et al.*^[10] reported a higher prevalence of diabetes mellitus in 11.2% and lower prevalence of obesity in 13.3% of urban slum dwelling males. A high prevalence (33%) of hypertension has been reported from among truckers in developed countries too.^[2] The high prevalence of hypertension is likely to be related to the high-stress levels and inadequate rest and relaxation among the truck drivers.

The prevalence of anemia among the drivers (8.47%) was found to be much lower compared to the general adult male population of India, where 24% men have been reported to be anemic according to National Family Health Survey-3,^[11] which indicates the good eating habits among the drivers, although the micronutrient content of the food they consume need to be explored further.

Though most of the health problems of the truck drivers in India have been captured well in this study, it was felt that a higher proportion of the drivers might actually be suffering from risk factors of metabolic syndrome that is affecting a fair proportion of the general adult male population in the country, which could not be highlighted appropriately in the present study due the small number of drivers included. Further studies, which focus on the growing epidemic of metabolic syndrome and how it affects the primarily sedentary long distance truckers, need to be conducted among a larger sample. In addition, it is imperative to frame favorable road and job policies for the truck drivers targeting them for periodic health evaluations for early detection of developing diseases, so as to reduce the burden of common

ailments and chronic conditions arising out of stress, long working hours, inadequate rest and bad road designs among them.

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Table 1
Prevalence of Morbidities Among Long Distance Truck Drivers

Morbidity	Number (n = 59)	Percentage
Musculoskeletal		
Backache	32	54.24
Pain in legs	17	28.81
Swelling of feet	4	6.78
Tingling of feet	7	11.86
Pain in shoulders	9	15.25
Visual		
Pain in eyes	16	27.12
Watering from the eyes	12	20.34
Headache	31	52.54
Genito-urinary		
Recurrent UTI	14	23.73
STD	5	8.47
Respiratory		
Coughing/sneezing	20	33.90
Difficulty in breathing	3	5.08
Gastrointestinal		
Recurrent diarrhea	17	28.81
Constipation	4	6.78
APD	28	47.46
Dermatological		
Skin allergy/dryness	13	22.03
Scabies	7	11.86
Diseases of hair/nails	14	23.73
Others		
Stress/tension	26	44.07
Fatigue	18	30.51
Insomnia	33	55.93

UTI = Urinary tract infection; STD = Sexually transmitted diseases; APD = Acid peptic disease

Table 2
Prevalence of Anthropometric Risk Factors Among Long Distance Truck Drivers

Variable	Number	Percentage
WC (cm)		
<85	30	50.85
85-90	10	16.95
>91	19	31.20
WHR		
<0.89	1	1.69
0.90-1.0	2	3.39
>1.0	56	94.92
BMI (kg/m ²)		
<16 (severe underweight)	1	1.69
16-16.9 (moderate underweight)	3	5.08
17-18.5 (mild underweight)	8	13.56
18.5-23 (normal)	26	44.07
23-29.9 (high risk)	18	30.51
>30 (obese)	1	1.69

WHR = Waist hip ratio; BMI = Body mass index; WC = Waist circumference