

Metabolic Syndrome in Commercial Truck Drivers: Prevalence and Associated Factors

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Introduction

- ▶ Population: Commercial Truck Drivers
- ▶ Metabolic syndrome and related disorders are understudied in this population
- ▶ Prevalence estimates for working adult populations is 10%-51.4%
 - ▶ General population prevalence is 34%
 - ▶ No studies in commercial truck drivers

Methods

- ▶ Large, multi-center, cross-sectional study
- ▶ N=817 Commercial truck drivers
- ▶ Measured anthropometry
 - ▶ Height and weight
 - ▶ Neck, chest, waist and hip circumference
- ▶ Finger stick for cholesterol profile and hemoglobin A1c measurements
- ▶ Computer administered questionnaire
 - ▶ past medical history, physical activity, diet and psychosocial factors
- ▶ Comparison with NHANES population for Objective measures

Criteria for Metabolic Syndrome

- ▶ 3 or more of 5 criteria:
 - ▶ **Waist circumference:** women ≥ 102 cm or men ≥ 88
 - ▶ **Triglycerides:** ≥ 150 mg/dL or on medication
 - ▶ **Blood pressure:** $\geq 130/85$ mm Hg or on medication
 - ▶ **Diabetes Mellitus:** Hemoglobin A1c $\geq 7\%$ or prior diabetes diagnosis
 - ▶ **High Density Lipoprotein:** ≤ 50 mg/dL (women) or ≤ 40 mg/dL (men)

What did we find?

- ▶ Mean age: 47.3 ± 10.5 years, 86.3% (n=705) male
- ▶ 62.1% (n=507) classified as obese (BMI > 30 kg/m²)
 - ▶ Average BMI 32.7 ± 7.4 kg/m²
- ▶ 52.4% (n=428) met criteria for MetS
 - ▶ 34% (n=276) met 3 of 5 criteria
 - ▶ 15% (n=116) met 4 of 5 criteria
 - ▶ 3% (n=36) met all 5 criteria
- ▶ Average no. of metabolic risk factors 2.45 ± 1.19
- ▶ Average neck circumference 43.3 ± 4.4 cm

Odds Ratios for a comparison of Metabolic Syndrome and MetS criteria between Truck Drivers and the General Population (NHANES)

	Odds Ratio	95% CI
Metabolic Syndrome	4.32	2.89 - 6.47
Waist Circumference	9.45	6.25 - 14.29
HDL Cholesterol	4.12	2.90 - 5.87
Triglycerides	7.46	4.98 - 11.17
Blood Pressure	0.53	0.36 - 0.78
Hemoglobin A1c/Glucose	0.42	0.28 - 0.65

Adjusted Analysis for relationship with Metabolic Syndrome among Truck Drivers



Multivariate Analysis of Modifiable Factors		OR	95% CI	
BMI		1.15	1.12	1.19
Age		1.04	1.03	1.06
Shift Work	Day shift	1.00	Ref.	Ref.
	Night shift	0.50	0.25	0.99
	Swing shift	0.70	0.50	1.06
	Variable shifts	1.05	0.68	1.63
Physical Activity (per hour week)		0.87	0.77	0.98

Conclusion

- ▶ This study provides the first estimates of metabolic syndrome in the trucking industry and demonstrates modifiable personal factors associated with MetS among truck drivers.
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Thank you for your attention