

Safe driving and health campaign: health promotion for commercial vehicle drivers

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Introduction

From the 1st December 2019 to 30th April 2020, the medical clinics of the United Christian Nethersole Community Health Service in cooperation with the Transport Department provided 2,020 free health checks for commercial drivers under the Safe Driving and Health Campaign. The aim was to improve health of commercial vehicle drivers by screening for cardiovascular risk.

Methods

Over the 5 months period, 2,020 self-employed commercial vehicle drivers were offered free health check on a voluntary uptake basis. The health check consisted of short health questionnaire, including simple screening for sleep apnoea, measurement of blood pressure, body weight, Body mass index, blood glucose, cholesterol.

Results

The majority (92.1%) of the participants were male and more than 70% aged 50 or above years old. Nearly 70% were with junior secondary to high school education level.

Nearly 70% of clients were overweight/obese, a quarter of clients had elevated blood pressure. It outnumbered the self-reported hypertension cases. The smoking rate was also higher than the general public with nearly one-fifth of drivers smoking. To promote road safety, we did sleep apnoea screening for drivers by asking a simple question of whether they had fallen asleep while stopping at a traffic light. If the answer was positive, the doctors would advise further evaluation for sleep apnoea. Only 7.6% of clients self-reported that they felt sleepy while their vehicles were at a stop. Of those who went on to undertake the Epworth sleepiness scale (ESS) screening questionnaire, only about 1.5% of the total population screened with high risk (score ≥ 8).

Conclusion

We found that the presence of chronic diseases, alcohol drinking, obesity, and history of falling asleep while vehicle is stopped were the key predictors of high score in ESS. Hence, the ESS should be provided to all those drivers with these characteristics instead of limiting to those who self-report falling asleep at traffic lights. Commercial vehicle driving is a sedentary occupation of mostly middle aged to older males. The control of cardiovascular risk factors and obesity is essential for safety of drivers, passengers and the general road public. More health education and promotion resources and support are needed for this occupation group.

Table 1 shows the association of the various risk factors with the ESS score, it was found that drivers who reported falling asleep while stopping at traffic lights, with a BMI >35 , pre-existing cardiovascular disease, and being a current drinker have a higher mean score in ESS. Nearly all the differences are statistically significant.

Table 1. Mean-test for ESS score differences of various risk factors

Risk factors	Mean ESS score		p-value
	Yes	No	
Fell asleep while driving	3.24	0.03	p<0.01
BMI >35	1.20	0.36	p<0.01
Acquired CVD	0.70	0.36	0.05
Current drinker	0.55	0.35	0.06

Table 2 shows the correlation between the risk factors to ESS score. Similar to above body mass index (BMI), diastolic blood pressure (DBP), and alcohol drinking frequency are positively correlated with ESS score. This suggest that all these are possible factors related to the high ESS score (i.e. higher chance of sleep apnoea).

Table 2. Bivariate linear regression of risk factors to the ESS score

Risk factors	beta	p-value
BMI Score	0.14	P<0.01
DBP	0.07	0.05
Alcohol drinking frequency	0.07	0.05

