

ABSTRACT

Introduction - Over 1.2 million people die and between 20 to 50 million suffer from non-fatal injuries due to road traffic accidents worldwide in each year. Heavy vehicle accident rates are high in Sri Lanka. Previous international studies show, that fatigue and sleepiness are linked to heavy vehicle accidents and heavy vehicle driving. Even though heavy vehicle accident rates are high in Sri Lanka we do not have any research evidence regarding level of fatigue and level of sleepiness among heavy vehicle drivers. In spite of that several heavy vehicle accidents being reported in the media suggesting driver fatigue and sleepiness as possible causes for the accident. Even though fatigue and sleepiness are used interchangeably in the literature, several independent studies have shown that fatigue and sleepiness are two distinct and independent phenomena.

Objectives - To describe the level of fatigue, daytime sleepiness and their associated factors, among heavy vehicle drivers attending the National Transport Medical Institute – Kandy.

Methods – A descriptive cross sectional study was carried out among heavy vehicle drivers attending the National Transport Medical Institute, Kandy for the renewal of heavy vehicle driving licenses. A total of 403 heavy vehicle drivers were included in the study through non-random sequential sampling technique. Interviewer administered close ended pre coded questionnaire was used for data collection. This questionnaire consisted of two parts; part one was consisting of questions on the drivers' age, their years of professional driving experience, their types of employment, vehicle types driven, average workday lengths, average driving distances, driving during risk hours, history of previous road traffic accidents and questions on the degree to which driver fatigue was perceived as a hazard to road safety. Part two consisted of Fatigue Severity Scale (FSS) and Epworth Sleepiness Scale (ESS), which were used to measure the level of fatigue and level of daytime sleepiness among the study participants. Prevalence of fatigue and Excessive Daytime Sleepiness (EDS), between groups were compared and tested for statistical significance by chi-square test and Fisher's exact test and correlations were tested by Spearman's rank correlation coefficient. A 'p' value of less than 0.05 was considered as statistically significant.

Results- The mean age of the study sample was 36.51 years (S.D. =8.6) and all were males. They drive an average of 129.03 Km /day (S.D. =87.24). Average heavy vehicle driving experience was 10.13 years (S.D. =9.11) and 23.6% of them had an experience of less than 5 years. Only 14 (3.5%) subjects reported chronic medical conditions but 29.1% of them were either overweight or obese. The mean FSS score of study participants was 2.43 (S.D. =0.99) and their mean score on ESS was 6.57 (S.D. =4.07). Prevalence of fatigue (FSS score > 4) was 8.7 % (n=35) and the prevalence of EDS (ESS score > 10) was 14.4 % (n=58) in the present study. Drivers who worked more than 11 hours per day had higher prevalence of fatigue than drivers who worked 11 hours or less (p=0.02) and drivers who sleep less than 6 hours had higher prevalence of EDS compared to drivers who sleep 6 hours or more (p=0.04). Only 22.1% thought fatigue was always dangerous on the roads. Drivers who thought, that fatigue was a problem (always/often) for them and others had a higher prevalence of EDS than who thought otherwise.

Conclusions and recommendations - This study showed high prevalence of fatigue and EDS among heavy vehicle drivers in this sample who were generally a healthy young group of people doing this occupation. Further studies focusing on sleep disorders among heavy vehicle drivers should be conducted when considering the high prevalence of EDS. Relevant authorities and occupational health service providers should be educated on the possibility of fatigue and daytime sleepiness being prevalent among heavy vehicle drivers and its overall risk on the roads to take preventive measures to reduce these aspects making the roads hazardous to other road users.

Key words – heavy vehicle drivers, fatigue, daytime sleepiness, Fatigue Severity Scale, Epworth Sleepiness Scale.