

# **SLEEP, HABITS, QUALITY OF LIFE AND ACCIDENTS IN TRUCK DRIVERS OF BRAZIL AND PORTUGAL**

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## **ABSTRACT**

Due to the remarkable relevance of sleep to Quality of Life (QL) and to the reduction of road traffic accidents, the sleep subjective quality, sleep habits, and sleep disorders were evaluated in Brazilian and Portuguese road truck drivers, and including the driving work duration; shift work; excessive daytime sleepiness (EDS); alcohol and other drugs consumption; the professional and nonprofessional accidents index in the last five years and the QL according to the predictors: functional capacity, physical, emotional and social aspects, pain, general health, mental health and vitality.

The research method used was descriptive-exploratory, compared and transversal cut. The procedures applied were: a demographic questionnaire; the Epworth Sleepiness Scale (ESE) (the score of 9 or more points was indicative of EDS presence); the generic QL questionnaire Medical Outcomes Study Short-form (SF-36); and the Portuguese version of the questionnaire Pittsburgh Quality of Life Sleep Index (PSQI) with scores that vary from 0 to 21 points, with a cut index of 5 or more in the global score count meaning the presence of sleep disorder.

A pilot study was performed with 20 drivers of each country. The total population studied was of 406 road truck drivers (200 from Portugal and 206 from Brazil), active in the Brazilian federal roads and in the Portuguese national roads, during a period of 15 days in Brazil and 30 in Portugal. The Faculdade de Medicina de Lisboa Ethics Committee approval, as well as the subjects' individual consent was obtained. Planning meetings with field interviewers with the candidate and his senior T. Paiva were held.

Each interview duration had a mean of 20 to 30 minutes. The sampling was sequential and the subjects were interviewed individually, at road oil stations or road restaurants in each country by trained and paid interviewers. Each interviewer performed at least 10 interviews.

The data was plotted and subjects divided into two groups: with and without EDS. The variables data were compared between both countries. Statistical analysis was performed using the following tests: the Student t test, the means comparison by variance analysis, qui-square contingency analysis, the Pearson simple correlation analysis, and the Fisher exact test. The significance level was 5%.

A significant difference was obtained only between age ( $p=0.0442$ ) and school years ( $p<0.0001$ ). Portuguese road truck drivers were older and with a higher number of school years. It was noticed that the Portuguese drivers sleep more, during the working days (19.00% more than 9 hours,  $p<0.0001$ ), as well as during nonworking days (52.50%,  $p=0.0720$ ); while the Brazilians wake up earlier during the working days (65.00% between 4 and 5 AM,  $p<0.0001$ ) and nonworking days (42.20% between 8 and 9 AM,  $p<0.0001$ ). There was a higher prevalence of drivers with shift work in Portugal (37.50%), and the fixed shift work was the most frequent kind ( $p<0.0001$ ). Sleep disorders were present in 35.40% of the Brazilians and 21.50% of the Portuguese drivers ( $p=0.0019$ ); EDS was present in 32.00% of the Brazilians and 21.00% of the Portuguese ( $p=0.0015$ ). All the 8 situations described at the ESE had a significant difference between both countries.

Brazilian road truck drivers drive during longer periods when compared to the Portuguese (43.20% and 2.00% drive more than 16 hours, respectively). Alcohol consumption was more often among the Portuguese drivers than the Brazilian ones (72.10% more than 6 times per week,  $p<0.0001$ ). The Portuguese drank more wine and whisky and the Brazilians more beer and Brazilian rum.

Psycho stimulant drugs, as caffeine and guarana, did not show significant differences between both countries, but 94.00% of the Portuguese and 95.60% of the Brazilians consume these products, and the cola light drink was the most frequently used by the Brazilian drivers ( $p<0.0001$ ) and coffee the most frequently used by the Portuguese ones ( $p=0.0003$ ). In regards to other stimulants use, as amphetamines, there was a larger prevalence index by the Brazilian drivers (11,10%) when compared to the Portuguese ones (0.50%) ( $p<0.0001$ ); on the other hand, the use frequency of 6 or more times per week was found more among Portuguese (94.60%) than Brazilians (77.10%) ( $p<0.0001$ ).

A difference regarding the accidents with injuries or deaths frequency in the last five years was detected between the Portuguese road truck drivers (20.00%) and Brazilian ones (13.10%) ( $p=0.0614$ ). The fatal accidents prevalence was larger in the Brazilian truck drivers (1.40%) ( $p=0.0001$ ). The private cars were more prevalent in the Portuguese drivers (12.50%) than in the Brazilian ones (0.90%) ( $p<0.0001$ ); in the cases deaths (1.00%) ( $p<0.0001$ ) and injured accidents (5.00%) ( $p<0.0001$ ) was referred only by the Portuguese drivers.

The Portuguese drivers showed better QL scores regarding mental health ( $p<0.0001$ ) and pain ( $p<0.0001$ ). The Brazilians showed better scores of physical ( $p<0.0001$ ), vitality ( $p=0.0002$ ) and social function ( $p<0.0001$ ). There was no significant difference between physical function, general health and the emotional aspects.

There was high prevalence of sleep disorders, EDS, alcohol and stimulant drugs use, and the accidents index in the road truck drivers in both countries. These points out to urgent need of primary prevention programs and to improve regulatory authorities. Transport companies and truck drivers should carefully follow the present traffic legislation regarding the limits of work hours driving, the time schedules and the shift work, as a high number of truck drivers with shift work and long working driving hours without the due rest were detected.

Further comparative studies should be addressed between these two countries for their population health and QL improvement.