



HEALTH AND WORKING CONDITIONS OF TRUCK DRIVERS IN BRAZIL

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Submission: 13/09/2018

Revision: 05/10/2018

Accept: 15/10/2018

ABSTRACT

This paper intends to describe the public health policies and labor conditions of road haulage drivers. In order to give a brief overview of these policies, it describes some research results, some indicators pointing to a loss of quality of life of these workers by virtue of their habits, their physical conditions and labor laws. Finally, the path indicates some points traced by national policies that seek to preserve the quality of life of these workers. The method used was literature review found in scientific bases, pointing data that guide the discussions. Due to the necessity of road transport in Brazil, truck drivers suffer poor working conditions to meet the high demand for their services. Seeing that the road haulage driver is directly involved in the delivery and flow of Brazil's logistical process of deliveries from the raw materials to the final product to the consumer, public policies are urgently needed to adjust and improve all the working and



physical conditions to this class of workers in accordance with law 13.103/2015. High rates of traffic accidents with truck drivers were recorded, however, conditions for good sleep do not favour truck drivers, destabilising their physical condition, and classifying these professionals as sedentary because of negative health habits.

Keywords: occupational diseases; working conditions; occupational health

1. INTRODUCTION

In Brazil, freight is predominantly carried by trucks and drivers are professionals with difficulty in caring and their health because they are always in different places and low income.

Another difficulty is that many are self-employed professionals, who do not have programs focused on their health.

The Universal Declaration of Human Rights, proclaimed on December 10, 1948, states in its articles 23 and 24 that every human being has the right to work, to free choice of employment, to just and favorable conditions of work, equal pay for equal work, as well as the right to rest and leisure, including reasonable limitation of working hours, as well as other social rights (UNESCO, 1948). In the same understanding, the International Labor Organization (ILO) at its 155th Convention, held in Geneva in 1981, adopted several proposals concerning safety, hygiene and the working environment.

All workers have the right to physical and mental health and to the balance between elements that affect their health and are directly related to safety and hygiene at work and its related environments.

In Brazil, the Social Rights are set forth in Article 6 of the Constitution (BRAZIL, 1988), and among these social rights is the right to work, which is in the same status as the others described in article 6, which are: rights to education, health, leisure, security, social security, maternity and childhood protection and assistance to the unaided. Workers' rights are set forth in article 7 of the Constitution and it is the responsibility of the Union to organize, maintain and carry out the labor inspection, as provided in clause XXIV of article 21 of same Federal Constitution. Also in item XXII, it is anticipated that the worker will have the right to reduction of risks inherent to work, through norms of health, hygiene and safety standards and as

mentioned later in item XXVIII, will have insurance guaranteed by the employer against accidents at work, including the indemnity to which the employer is obliged when incurring deceit or guilt.

Considering that workers' rights are constitutional rights as previously described, any event that constitutes the violation of these rights is a direct aggression to the set of basic and elementary rules that socially and politically organize the Brazilian State.

According Tavares and Kitamura (2014) workers are the main assets of the organization, thereby, having a look at some ways that may interfere with their productivity, represents a strategic move.

This text aims to evaluate the research results on the working conditions of truck drivers in Brazil and to evaluate some aspects of Law 13.103 of 2015 that guarantee more safety to truck drivers working on the books. The goal of this research was to carry out an exploratory bibliographical research about the health of the truck driver.

2. RESEARCH METHODOLOGY

This study consists of a review of narrative literature. The selected studies and the interpretation of the information are adequate to build a contextualization for the problem of truck driver health in Brazil. It is understood that the analysis of the possibilities present in the consulted literature have contributed to the conception of the theoretical reference of this research.

The bibliographic survey material collected was carried out in the gateway of periodicals of CAPES, in the SCIELO articles and in SCIELO books and PUBMED.

3. BIBLIOGRAPHY REVIEW

The bibliographic review will be presented below.

3.1. LAW nº13.103 / 2015 AND THE REGULATIONS OF TRUCK DRIVER ACTIVITY.

Brazil, which is a peripheral country, has been progressing along the paths of social protection but still presents some social exclusions and therefore the issue involving work accidents that results in job loss, most of the time, implies social exclusion. (POCHMANN; AMORIM, 2004).



Paragraph 3, of Law 8080, 1990, states that health can be determined by certain factors, which are, among others; food, housing, basic sanitation, environment, labor, income, education, transportation, leisure and access to essential services. (BRAZIL, 1990).

A closer look at the numbers that affect the lives of so many workers leads us to reflect on the regularization, or a greater supervision of the truck drivers profession, as affirmed by Silva et al. (2016): "The informality and precariousness present in this profession, configured by the outsourcing services, compromise the working and health conditions of workers submitted to the same context."

The law nº 8.706, of September 14, 1993 in Article 1 states that the National Transportation Confederation (CNT), in compliance with the provisions of this Law, is committed to creating, organizing and managing the Social Transportation Service (SEST) and the National Transportation Learning Service (SENAT), with legal personality under private law, with no prejudice to the supervision of the application of its appeals by the Federal Audit Court (BRASIL, 1993)

One of the functions of SEST SENAT is to priorities and work on programs of health and quality of life of truck drivers and public transport. SEST SENAT acts in the promotion of sports, leisure and the prevention of diseases; aims at the physical and mental well-being and also to integrate the driver in society. In addition to education through lectures, seminars, medical examinations and guidelines in disease prevention. It aims to bring to the truck driver information on preventive health control, citizenship and environmental awareness.

SEST SENAT offers the services of:

- i) medical area: physiotherapy; psychologist; health and nutrition
- ii) dental area: pediatric dentistry; endodontics; surgery; periodontics; orthodontics; prevention; diagnosis; dentistry and radiology, which led to actions and programs of health prevention by municipal governments and private institutions, leading to possible partnerships.

Law 13.103 / 2015, in its article 6, regulates the toxicological tests as follows:

Art. 5 Art. 168 of the Consolidation of Labor Laws - CLT, approved by Decree-Law Nº 5.452 of May 1943, is now in force with the following changes:



"Art. 168

§ 6º - Toxicological tests shall be required, prior to admission and upon dismissal, in the case of a professional driver, with the right to counter-claim in case of a positive result and the confidentiality of the results of the respective tests.

§ 7º For the purposes of the provisions of § 6º, a toxicological test with a minimum detection window of 90 (ninety) days, specific for psychoactive substances that may cause dependence or, demonstrably, impair the steering capacity, may be used for this purpose the toxicological test provided set forth in Law Nº 9.503 of September 23, 1997 - Brazilian Traffic Code, since it was carried out in the last 60 (sixty) days." (NR) (BRAZIL, 2015)

The same law guides drivers for the daily eight-hour journey, which can be extended for up to two extra hours or, if foreseen in a collective convention or agreement, for up to four extra hours. These workers shall also rest 30 minutes every 5 hours and 30 minutes of driving, and shall they also rest for 8 consecutive hours, plus 3 hours during the day regardless of the 30 minutes mentioned, therefore it will depend on what was agreed between contractor and worker. (BRAZIL, 2015).

Silva et al. (2016) refer to the "Law of Truck Drivers" as a document to be fulfilled by the competent bodies to ensure the quality of life of these workers, although the neoliberal panorama subjects these workers and other workers to unilateral interests which oblige them to exercise their productive activity at the cost of health loss and quality of life loss and even at the cost of their own lives.

3.2. SAFETY AND HEALTH OF THE TRUCK DRIVER

A statistical survey published by the Ministry of Labor and Social Security on fatal accidents with road haulers showed that truck drivers die or are injured due to the use of licit and illicit drugs to stay awake in order to deliver their loads in continue long distance journeys. With the pressure to make the deliveries of the goods and the competition of the companies to ensure that their products are not lacking in places of sale or production inputs in the industries, these professionals are more likely to be involved in traffic accidents due to fatigue, many times being the protagonists of the situation (BRAZIL, 2016).



According to Sinagawa (2015), fatigue and the use of drugs by truck drivers may be related to traffic accidents. Penteado et al. (2008), affirms that the working conditions of the truck drivers affect negatively their quality of life. Masson et al. (2010) argue that the working model of truck drivers interferes in their health and consequently causes loss of quality of life throughout the ageing process.

Yet, according to Sinagawa (2015), the fatigue of truck drivers leads to the use of drugs: of the 1.316 urine samples collected, with the help of the Federal Highway Police between 2008 and 2012, it was identified that 7.8% of the results were positive for drug use. Marijuana, amphetamine and cocaine have been identified, which may be related to traffic accidents (TAs).

According of a research of Bombana et. al. (2017), oral fluid samples were screened for amphetamine, cocaine, and tetrahydrocannabinol (Δ 9-THC) by ELISA and the confirmation was performed using ultra performance liquid chromatography with tandem mass spectrometry detection (UPLC–MS/MS). Of the 764 drivers asked to participate, 762 agreed to participate. The participants were driving an average of 614km and 9.4h a day. Of the total samples, 5.2% (n=40) tested positive for drugs. Cocaine was the most frequently found drug (n=21), followed by amphetamine (n=16) and Δ 9-THC (n=8). All drivers were men with an average age of 42.5 years. With these results it is possible to verify that many truck drivers were still consuming psychoactive drugs while driving, and cocaine was the most prevalent one. This reinforces the need for preventive measures aimed at controlling the use of illicit drugs by truck drivers in Brazil.

Drummer et al. (apud SINAGAWA, 2015, p.14) state that (...) the licit drugs such as alcohol, medicinal (tranquillizers and antidepressants) and illicit drugs (amphetamine, cocaine and cannabis) have a significant role in the occurrence of TA, usually with fatalities. Drummer et al. (2007) report that drivers who had used psychoactive substances became more likely to be blamed for collisions than other drivers who had not used drugs.

Other health problem in truck drivers, according to Freitas et. al. (2010), is hepatitis C virus (HCV) infection is a global public health problem. Long-distance truck drivers live apart from their family for long periods of time, a lifestyle that favors at-risk behaviors such as unprotected sex with multiple partners and illicit drug use.

3.3. Truck Driver Profile

In a study carried out by Penteado et al. (2008), with 400 truck drivers in the interior of the State of São Paulo, on the Anhanguera Highway (SP-330), the following results were obtained:

59,5% were autonomous.

58,5% were making short trips, within the state.

They worked 12,7 hours a day.

They slept for 5 to 8 hours.

67,75% complained of constant or sporadic problems with posture.

37,75% mentioned hearing problems.

57,5% mentioned about stomach problems.

70% mentioned about colds/flu.

58,5% showed negative feelings such as fear, stress and depression.

23% mentioned dizziness problems.

30,75% mentioned problems of hoarseness.

36,5% mentioned throat problems.

53,5% mentioned cough problems.

87,75% would ingest coffee.

84,5% consumed fatty food.

43% would drink alcohol.

19,5% use energetic beverages.

32% smoked.

2% used other drugs.

As noticed health loss and the intake of stimulants or other drugs coincides with the study data. Masson et al. (2010) imply that there will be health losses caused by unhealthy behaviors such as physical inactivity, a poor diet, overweight, tobacco use, alcohol, and keeping the truck driver away from home. According to

Penteado et al. (2008, p.41) "working conditions of truck drivers may have negative impacts on their general health, impairing communication and the quality of life of these workers".

Research of Sangaleti et. al. (2014) has the following results: Results Among all of the subjects, the prevalence of physical inactivity was 72.8%; consumption of alcoholic beverages, 66.8%; routine use of some type of stimulant during work activities, 19.2%; and smoking, 29%. Only 20.8% had a healthy weight, and 58.2% had an abdominal circumference greater than 102 cm. A diagnosis of arterial hypertension was confirmed in 45.2%, and abnormal glucose levels were detected in 16.4%. Although some of the truck drivers were aware of these conditions, most were not taking specific medications.

According to Codarin et al. (2010) in a survey made with 470 truck drivers covering the cities of São Paulo, Rio de Janeiro, Belo Horizonte, Vitória, Americana and Curitiba, realized that:

95% of the survey samples were men.

49,1% had only finished or unfinished elementary education.

60,7% were driving through night shifts.

62,4% had eutrophic weight.

28,4% were obese.

53,1% were classified as insufficiently active or exercised infrequently.

54,2% were sedentary.

67,1% consumed alcohol.

According to Masson et al. (2010) study it is concluded that due to the work model there is a decrease in health and quality of life, added to this a process of weakening coming from the use of psychoactive drugs and sexual practices of risk.

Research of Hino et. al. (2014), with 37 truck drivers, showed that the majority (54.1%) reported seeking the health service only in emergency situations and 37.8% mentioned having sought care for more than a year. The main reason for the low frequency of services was the incompatibility between work and care hours (43.2%).

The vision of invulnerability of the man contributes so that the truck driver takes care less of the health.

3.4. Life habits of truck drivers

As Cavagioni (2006) demonstrates in his research carried out on the Régis Bittencourt Highway (BR-116) within the São Paulo state route, life habits are not healthy. The 258 participants stated that their habits include:

a) Life habits

19% were smokers.

55% reported using alcohol.

74% did not exercise.

57% reported having used sleep-inhibiting drugs.

14% keep use of the above items.

59% reported low back pain.

49% reported stomachache.

b) Eating habits

43% consume of processed foods

22% consumed preferably fried foods

88% used salt as seasoning

22% added salt to prepared foods

69% had their meals in restaurants and 3 to 4 meals a day (57%).

This author concluded that the interviewees presented risk indicators to cardiovascular diseases, for the following reasons:

Sedentary lifestyle

Increased body mass index abdominal circumference

Hypertension

Hypercholesterolemia

In others countries like Canada, there are similar problem. Research of Mcdonough et. al. (2014) showed that predominant themes as stress, work environment, communication, lifestyle, culture, family, concerns about fatigue. In terms of the transportation work environment, drivers and managers were aware of the profession's potential to promote chronic lifestyle-related illnesses, but they described the challenges to make the profession more receptive to a healthy lifestyle.

3.5. Health problems: most frequent complaints

As observed by Lemos (2009) in a study among 460 participants, drivers working with irregular schedules had more complaints about musculoskeletal pain. There was a high level of complaints about low back pain. The same study showed the relation between poor quality sleep the lack of discipline to doze with musculoskeletal pain.

According to Andrusaitis, et. al. (2006), the occurrence of low back pain in truck drivers was 59%. The amount of working hours driving the wagon would be the only indicator associated with low back pain, and for each plus hour worked, the risk of developing low back pain increased by 7%.

Cavagioni (2006) found among its participants the index of 59% of drivers complaining of low back pain, and Lemos (2014) relates the onset of pain with poor sleep quality as well.

According to Nunes (1989) a high amount of patients suffering from lower back pain are classified as professionals in repetitive work and professionals in sedentary work.

Obesity is also a factor that acts negatively on the spine, as do pendulous abdomen, visceroptosis, abnormal foot posture, insufficiently developed muscle masses and others.

According to Lemos (2014), physiotherapeutic intervention helps to reduce musculoskeletal pain and improves sleep quality in truck drivers working irregular hours, since he realized that the high prevalence of muscular pain among these subjects is likely related to poor sleep quality regardless of workload.

In order to evaluate the sleep disturbance of 206 Brazilian truck drivers and 200 Portuguese truck drivers who worked in irregular shifts, Souza et. al. (2008) found that both had difficulty in staying active and alert during the day, had a habit of consuming alcohol, used psychoactive drugs and had been involved in traffic accidents within the last five years.

A research of Leyton et. al. (2012) showed that in Brazil, truck drivers report using amphetamines to maintain their extensive work schedule and stay awake. These drugs can be obtained without prescription easily on Brazilian roads. In their research, urine samples were screened for amphetamines, cocaine, and cannabinoids by immunoassay and the confirmation was performed using gas chromatography-mass spectrometry (GC-MS). Of the 488 drivers stopped, 456 (93.4%) provided urine samples, and 9.3% of them (n=42) tested positive for drugs. Amphetamines were the most commonly found (n=26) drug, representing 61.9% of the positive samples. Ten cases tested positive for cocaine (23.8%), and five for cannabinoids (11.9%). All drivers were male with a mean age of 40 ± 10.8 years, and 29.3% of them reported some health problem (diabetes, high blood pressure and/or stress).

Silva-Júnior et. al. (2009) concluded in their research that the prevalence of depression among truck drivers was 13.6%. Multivariate analysis showed that being 45 years or older had a protective effect (OR = 0.19 P = 0.02), whereas low educational level (OR = 3.03 P = 0.01), use of stimulants (OR = 5.03 P < 0.01) and wage-earning (OR = 2.84 P = 0.01), as opposed to self-employment, increased the risk for depression. Truck drivers are at increased risk for depression when compared to the general population.

Research of Masson and Monteiro (2010) showed that all truck drivers interviewed were men, the majority were married, had kids, low study level and more than 30 years old. 54,2% reported abuse psychoactive drugs. The majority was aware of the importance of using condoms with casual partners; 47,5% reported relationship with casual partners and 86% always used condoms.

Pulerwitz et. al. (2008) in surveys administered to a random sample of 1,775 truck drivers crossing Southern borders in Brazil indicate that stigma is an important barrier to HIV testing and disclosure. Learning more about stigma is important given

the growing assertions that testing is a 'critical gateway' to HIV prevention and treatment. As access to HIV testing and treatment improves, providers increasingly need to understand and address how stigma acts as a barrier to services.

3.6. Sleep problems

A survey was conducted by Souza, et. al. (2008), aiming to evaluate the sleep disturbances of 206 Brazilian truck driver and 200 Portuguese truck drivers, who worked irregular shifts, such as if they had excessive daytime sleepiness and quality of life issues.

It was noticed that both groups had difficulties to stay active and alert during the day, had a habit of consuming alcohol, used psychoactive drugs and had been involved in traffic accidents in the last five years.

In a study carried out by Lemos (2009) in the state of São Paulo with 460 truck driver over a 12-month period, it was noticed that between drivers working irregular hours, there was a higher number of complaints of musculoskeletal pain and prevailing lower back pain complaints. Statistical data within the study was presented, showing the relation between poor quality sleep, lack of discipline to doze and musculoskeletal pain in truck driver.

According to Lemos (2014, p. 07), in his new study on the physiotherapeutic intervention to reduce musculoskeletal pain and improve sleep quality in truck drivers working irregular schedules, it was noticed that, "There is a high prevalence of muscular pain between drivers, regardless of working hours. However, poor sleep, short sleep and the presence of pain seem to be associated".

Research of Knauth (2012) in the south of Brazil with 854 truck drivers, showed that Amphetamine use to stay awake was reported by 12.4% of the truck drivers, either in isolation or in combination with other substances (coffee, guaraná powder, energy drinks, snorted cocaine). Amphetamine was the most cited substance by those who consumed something to stay awake. The consumption of alcoholic drinks was mentioned by more than 70% of the interviewees; among those who drink, 45.1% reported that they use alcohol at least once a week. Amphetamine use was associated with younger age groups, wage increase, longer trips, and alcohol use.

In other countries, there are the same problem, a research of Bobko, Chernyuk, and Gadayeva (2017) in Ukraine, showed that increased workload results in increased need for sleep in truck drivers that takes place during days off. Night work decreases sleep duration on days off which may reflect the reduction in the recovery capabilities of a human body. The deterioration of sleep quality both on weekdays and on days off is associated with increased health complaints.

In others business areas the problem is the same, the research of Tavares and Kitamura (2014) was conducted in a manufacturing industry located in the Valley of Paraiba, and the results were that among the factors surveyed, sleep is what most affects employees' productivity.

3.7. Accidents at work

The Statistical Yearbook of the National Department of Transport Infrastructure (DNIT) of 2010 showed an increase of 6.946 to 8.616 fatalities in truck accidents in the road network monitored by federal highway police between 2008 and 2010, throughout the national territory. (BRAZIL, 2010).

This document points out that of 317.711 thousand of the vehicles involved in accidents on federal highways, 79.374 thousand were cargo vehicles. (BRAZIL, 2010).

According to the Statistical Annual of Work Accidents (AEAT) of 2014 and also to data from the Institute of Social Security (INSS), there is a growing increase in accidents in the National Classification of Economic Activities (CNAE) - 4930. Which are i) 4930-2/01 for municipal road transport of cargo, except dangerous goods and removal services; ii) 4930-2/02 for cargo transportation, except for dangerous products and removal services, inter-municipal, interstate and international; 4930-2 / 03 for road transport of dangerous goods and 4930-2/04 for road transport of removal services.

Accidents are thus distributed, showed in Chart 1 in absolute numbers.

Chart 1. Works accidents in category 4930: total and with CAT (Accidents with Work Accident Communication) in the period of 2011 to 2013.

Table 1: Accidents with Work Accident Communication (CAT) in the period of 2011 to 2013

Year	Work Accidents	Accidents with Work Accident Communication (CAT)
2011	17.121	12.621
2012	17.443	13.007
2013	17.590	13.432

Source: INSS (Institute of Social Security), adapted by the authors.

According to data released by the Ministry of Labor and Social Security (MTPS), the accidents involving truck drivers throughout Brazil in 2014 are that 15% of the deaths due to accidents at work were drivers of trucks, which leads one to think that it is necessary to idealize policies that can prevent such losses.

A research of Giroto et. al. (2016) with 665 male truck drivers in Paranaguá Brazil, with an average age of 42.2 (± 11.1) years, showed that 41.7% of the drivers reported involvement in accidents and near-miss accidents, respectively. In fully adjusted analysis, the 3rd tertile of professional experience (>22 years) was shown to be inversely associated with involvement in accidents (odds ratio [OR] 0.29; 95% confidence interval [CI] 0.16-0.52) and near-miss accidents (OR 0.17; 95% CI 0.05-0.53). The 2nd tertile of professional experience (11–22 years) was inversely associated with involvement in accidents (OR 0.63; 95% CI 0.40-0.98).

4. CONCLUSIONS

Seeing that the road haulage driver is directly involved in the delivery and flow of Brazil's logistical process of deliveries from the raw materials to the final product to the consumer, public policies are urgently needed to adjust and improve all the working and physical conditions to this class of workers in accordance with law 13.103/2015.

High rates of traffic accidents with truck drivers were recorded, however, conditions for good sleep do not favor truck drivers, destabilizing their physical condition, and classifying these professionals as sedentary because of negative health habits.

The current economic scenario demands higher productivity to the detriment of the worker. In this sense, the State must guide the creation of public policies that can guarantee a quality of life for all workers.

As a suggestion of future research, research policy suggestions for improving the health of truck drivers.

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