

RELATIONSHIP BETWEEN WORK PROCESS AND HEALTH OF TRUCKERS

Relação entre processo de trabalho e saúde de caminhoneiros

Relación del proceso de trabajo y la salud de camioneros

Original Article

ABSTRACT

Objective: To analyze the relationship between the work process and the health of truckers in the state of Ceará. **Methods:** Epidemiological cross-sectional study conducted with 165 truck drivers attending the XX Truckers Festival of the municipality of Tabuleiro do Norte-CE. Data were collected using a questionnaire with close-ended questions about issues related to the work process, health and lifestyle. Data were organized in tables and analyzed with the aid of EPI-INFO software. **Results:** It was verified that 100% (n=165) of the professionals were males, 39.3% (n=65) were aged 30-39 years, 40% (n=66) had incomplete primary education, 35.8% (n=59) worked from 12 to 16 hours per day. The most common health problems were insomnia, which affected 78.1% (n= 129) of the drivers and presented a significant association with the use of psychoactive substances (p=0.002); and lower back pain, which affected 52.7% (n=87) of the truckers. **Conclusion:** There is a great exposure to risk factors imposed by this profession, which can significantly affect the work performance and the quality of health of truck drivers. Therefore, changes in their lifestyle are needed and the authorities should draw attention to these professionals.

Descriptors: Worker's Health; Lifestyle; Health Promotion.

RESUMO

Objetivo: Analisar a relação entre processo de trabalho e saúde de caminhoneiros do estado do Ceará. **Métodos:** Tratou-se de um estudo epidemiológico transversal desenvolvido com 165 caminhoneiros presentes no XX Festival dos Caminhoneiros do município de Tabuleiro do Norte-CE. Para a coleta de dados, aplicou-se um questionário com perguntas fechadas, abordando os temas relacionados ao processo de trabalho, saúde e estilo de vida. Os dados foram organizados em tabelas e analisados com o auxílio do programa EPI-INFO. **Resultados:** Constatou-se que 100% (n=165) dos profissionais eram do sexo masculino, 39,3% (n=65) encontravam-se na faixa etária de 30 a 39 anos, 40% (n=66) possuíam apenas o 1º grau incompleto, 35,8% (n=59) trabalhavam de 12 a 16 horas por dia. Os problemas de saúde mais comuns foram a insônia, presente em 78,1% (n=129) dos caminhoneiros, apresentando relação significativa com o consumo de substâncias psicoativas (p=0,002); e dores lombares, presentes em 52,7% (n=87) deles. **Conclusão:** Existe uma grande exposição a fatores de risco imposta por essa profissão, podendo afetar de maneira significativa a execução do trabalho e a qualidade da saúde dos caminhoneiros. Portanto, tornam-se necessárias mudanças no estilo de vida deles e que as autoridades dirijam maior atenção para esses profissionais.

Descritores: Saúde do trabalhador; Estilo de Vida; Saúde do Viajante.

RESUMEN

Objetivo: Analizar la relación del proceso de trabajo y la salud de camioneros del estado de Ceará. **Métodos:** Se trató de un estudio epidemiológico y transversal desarrollado con 165 camioneros presentes en el XX Festival de los Camioneros del municipio de Tabuleiro del

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Norte-CE. Para la recogida de datos se aplicó un cuestionario con preguntas cerradas incluyendo los temas relacionados al proceso de trabajo, salud y estilo de vida. Los datos fueron organizados en tablas y analizados en el programa EPI-INFO. **Resultados:** Se constató que el 100% (n=165) de los profesionales eran del sexo masculino, el 39,3% (n=65) estaban en la franja de edad de 30 y 39 años, el 40% (n=66) tenían solamente la educación primaria incompleta, el 35,8% (n=59) trabajaban entre 12 y 16 horas al día. Los problemas de salud más comunes fueron el insomnio, en el 78,1% (n=129) de los camioneros, con relación significativa con el consumo de sustancias psicoactivas ($p=0,002$); y dolores en la lumbar en el 52,7% (n=87) de ellos. **Conclusión:** Hay una gran exposición a los factores de riesgo de parte de esa profesión que puede afectar de modo significativo la ejecución del trabajo y la calidad de la salud de los camioneros. Por lo tanto, se hace necesario cambios en su estilo de vida y más atención a estos profesionales de parte de las autoridades.

Descriptor: Salud Laboral; Estilo de Vida; Salud del Viajero.

INTRODUCTION

Discussions on the influence of the work process and lifestyle on people's health have established a strong link between these two variables, explaining that many of the health changes that individuals go through are associated with the way they react to work circumstances, as in the case of truckers⁽¹⁾.

A study to assess the work process and lifestyle of over the road truck drivers found that they are exposed to strenuous activities such as long daily working hours and inadequate conditions for promoting and maintaining health like poor diet, physical inactivity, poor quantity and quality of sleep, indiscriminate use of psychoactive substances, and loneliness⁽²⁾.

Added to the intense pace of work are the long-distance travels, the inflexible working hours, the delivery and security responsibilities regarding the vehicle and the load, and the exposure to insecurity on the roads. Because of these factors, truckers need to sleep in the cab of the truck, with precarious diet, comfort and safety, which lead them to physical and mental strain as well as emotional and affective distress, causing various disorders that have a direct and negative impact on their quality of life (QoL)⁽³⁾.

Professional drivers have no daily work routine, no scheduled times for meals and rest, and no specific dates to be with the family. Drivers generally miss the birth and growth of their children and live a lonely life far from their families, seeking social contact as a way to soften the family isolation and feel part of society⁽⁴⁾.

Work overload is a common and worrisome problem related to this labor activity, as it has a direct influence on the capacity of service execution. Moreover, when body limits are not respected, the consequences can be tragic. According to a research conducted in 2008 by Goodyear's *Serviço a Frotas, Eventos e Propagandas* in Brazil, 38.2% of drivers had never done a medical checkup, reporting the lack of time as the main reason for that. However, it is also known that it is difficult to get around in the cities with a truck to seek care; therefore, truckers only seek care in emergency cases⁽³⁾.

Given this context of vulnerabilities, it is important to deepen the discussion on the health of truckers and know the peculiar aspects of this profession, considering that these professionals are constantly affected by factors that endanger their lives. The actions targeted to this population demand greater attention from the health sector.

Thus, the present study may provide opportunities to develop health promotion strategies tailored to this group, contemplating the democratization of basic health care facilities and their decentralization in order to strengthen, through interventions and educational awareness, the prevention of accidents with multiple victims, the reduction of cases of noncommunicable diseases, the protection against sexually transmitted infections and other infectious diseases that can be prevented through vaccination.

Therefore, the present study aimed to analyze the relationship between the work process and health of truckers in the state of Ceará.

METHODS

An epidemiological cross-sectional study was conducted with truckers attending the XX Truckers Festival in the municipality of Tabuleiro do Norte-CE from August to September 2012.

The municipality of Tabuleiro do Norte, located in the Jaguaribe Valley and 211 km far from Fortaleza, in the state of Ceará, holds annually a festival that receives circa 750 professionals organized by the *Associação de Caminhoneiros – ACATAN* (Truckers Association). The truckers were invited to participate in the study at the moment they were visiting the "health stall" run by the Town Hall.

The sample size calculation was performed using simple random sampling based on a population of 750 truckers expected to attend the festival. There was a prevalence of 16.5% of posture problems. Error was set to be 5%, the significance level was set at 95%, and the confidence interval was set at 5%. After the calculation, the sample size was estimated to comprise 165 people.

The study included male truckers, regardless of age, who were originally from the state of Ceará and agreed to participate.

Data were obtained through researchers' direct contact with truckers who were randomly selected by convenience during the festival. Participants were informed about the objectives and importance of the study and were formally invited to participate in the research.

Data were collected using a questionnaire developed by the authors and answered by the truckers in a multiprofessional care stall after previous contact. The questionnaire had close-ended questions about issues related to truckers' work process, health, and lifestyle. In the present study, the independent variables were as follows: age, working time, working hours, rest, use of amphetamines or other medicines; dependent variables were as follows: health problems such as hypertension, diabetes, insomnia, spine problems, and substance dependence.

Data were organized in tables using EPI-INFO software. Descriptive statistical analysis was performed using the same software.

The research is in agreement with the ethical precepts of Resolution 466/12 of the Ministry of Health⁽⁵⁾ and all the participants signed a free informed consent form. The research started after approval from the Research Ethics Committee of the University of Fortaleza (UNIFOR) under Protocol No. 51832.

RESULTS

A total of 165 truckers were interviewed, and their sociodemographic profile was as follows: 100% (n=165) were males, 39.3% (n=65) were aged 30-39 years, with a mean age of 40 years, 40% (n=66) had incomplete primary education, and 23.6% (n=39) had complete secondary education.

Regarding marital status, 63.6% (n=105) were married and 82.4% (n=136) had children. As to the conviviality with family during work, 73.3% (n=121) reported they sometimes travel with the family and 26.7% (n=44) said they never travel with the family.

With regard to the monthly income, 80.6% (n=133) reported receiving 1-3 minimum wages per month, and only 19.3% (n=32) reported receiving 4-8 minimum wages per month. Concerning the ownership of the truck, 46.0% (n=76) have their own truck and 54.0% (n=89) drive the truck of the company they work for.

Of 48.5% (n=80) of the truckers who reported working 12-16 hours a day, 12.7% (n=21) reported having insomnia and 35.8% (n=59) said they did not. Of all the truckers who reported spending 11-15 days away from home, 9.6% (n=16) reported having insomnia, and 35.2% (n=58) answered no.

Of the interviewees who reported resting from 1-3 hours during the day, 16.9% (n=28) reported not having insomnia, and 2.5% (n=4) said they do have this problem.

Table I - Distribution of truckers interviewed according to the relationship between insomnia and working hours, hours of sleep per day, and quality of sleep (n=165). Ceará, 2012.

Variables	Insomnia					
	Yes		No		values	
	n	%	n	%	χ^2	p
Working hours						
2-6 hours	0	0	1	0.6	3.49	0.32
7-11 hours	5	3.1	34	20.7		
12-16 hours	21	12.7	59	35.8		
More than 16 hours	13	7.8	32	19.3		
Hours of sleep per day						
Up to 4 hours	8	4.9	29	17.6	4.67	0.19
5-7 hours	48	29.0	48	29.0		
8-10 hours	10	6.0	18	11.0		
10-12 hours	0	0.0	4	2.5		
Quality of sleep						
Excellent	1	0.6	25	15.2	31.7	0.00
Good	5	3.0	59	35.7		
Fair	24	14.5	39	23.6		
Poor	4	2.5	4	2.5		
Very poor	3	1.8	1	0.6		

Source: Truckers attending the XX Festival in Tabuleiro do Norte-CE. Yates Correction.

Regarding the quality of sleep, of all the interviewees who rated it as being fair, 14.5% (n=24) had insomnia and 23.6% (n=39) reported not having this problem.

Of the truckers who usually take something for not sleeping, 34.5% (n=57) reported having insomnia while 7.8% (n=13) answered no. Of the ones who do not take anything to avoid sleeping, 31 (18.7%) reported having insomnia and 39.0% (n=64) reported having no problems (Table I).

A significant relationship was found between the total of 78.1% (n=129) of truckers who reported having insomnia and the use of psychoactive substances ($p=0.002$) (Table II).

Regarding the respondents who have sought medical care for less than one year, 42.3% (n=70) do not have insomnia and 14.0% (n=23) have insomnia. The analysis of the statistical significance between the variables working hours, hours of sleep per day and quality of sleep showed that only quality of sleep was statistically significant ($p=0.00$) (Table I).

Of 42.2% (n=70) of truckers who reported taking something for not sleeping, 49.0% (n=34) used medicines

such as amphetamine, 24.0% (n=17) used drugs and 27.0% (n=19) used natural products.

Regarding acquired health problems, 83.4% (n=64) of the participants reported endocrine and metabolic disorders such as hypercholesterolemia, hypertension and diabetes mellitus. Additionally, 59.9% (n=99) reported having osteoarticular problems, mainly low back pain and arthralgia; 38.1% (n=63) reported suffering from stress and 78.1% (n=129) reported having insomnia. Concerning the information about sexually transmitted diseases (STDs), 38.1% (n=63) of truckers said they have already acquired them, and among the acquired diseases (Table II), 67.0% (n=42) said they have already acquired gonorrhoea, 20.0% (n=13) herpes 7.0% (n=5) syphilis, and 6.0% (n=3) hepatitis B and/or C.

Table III shows data on the job. It is observed that 29% (n=48) of truckers have been at the job for 11-20 years, 85.4% (n=141) said they are satisfied with the profession, 72.1% (n=119) reported meeting the work deadlines, 56.9% (n=94) had been involved in a traffic accident, and 42.4% (n=70) had been victims of robbery during the exercise of their profession (Table III).

Table II - Distribution of truckers interviewed according to the acquired health problems (n=165). Ceará, 2012.

Health Problems*	n	%
Cholesterol alteration	7	4.2
Diabetes mellitus	9	5.4
Hypertension	48	29.0
Joint problems	12	7.2
Back pain	87	52.7
Vision problems	14	8.4
Stress	63	38.1
Overweight	74	44.8
STD	63	38.1
Insomnia**	129	78.1

* Important to consider that some interviewees reported more than one health problem.

STD: Sexually Transmitted Diseases

Source: Truckers attending the XX Festival in Tabuleiro do Norte-CE.

** $p=0.002$ when related to the use of psychoactive substances.

Table III - Distribution of truckers interviewed according to events related to the profession. Ceará, 2012.

Variables (n=165)	n	%
Years in profession		
< 5 years	31	18.8
5-10 years	41	24.9
11-20 years	48	29.0
More than 20 years	45	27.3
Likes the profession		
Yes	141	85.4
No	24	14.6
Meets deadlines		
Yes	119	72.1
Sometimes	35	21.2
No	11	6.7
Has ever been involved in a traffic accident		
Yes	94	56.9
No	71	43.1
Has ever been a victim of robbery		
Yes	70	42.4
No	95	57.6

Source: Truckers attending the XX Festival in Tabuleiro do Norte-CE.

DISCUSSION

Although there are some women truckers, it was observed in the present research that truckers are mostly males aged 30-59 years, a result that is similar to that of a study conducted with truckers in border regions of the state of Rondônia⁽⁶⁾.

Many of the interviewed truckers have started their career without even completing primary school. This is a worrisome datum, as these professionals hardly ever get back to school and are increasingly vulnerable to job-related risk factors such as automobile accidents, STDs, excessive alcohol consumption, and drug use⁽¹⁾.

In general, the present study revealed that the majority of interviewees (80.6%) had a monthly income of 1-3 minimum wages. Similar data have been shown by research that found that 70% of the study participants received one to five minimum wages⁽⁷⁾.

With regard to the relationship between working hours and insomnia, we observed that although the analysis of

data revealed that only the quality of sleep appeared to be statistically significant, studies have shown that the working hours, the days away from home, and the use of substances for not sleeping interfere decisively in the quality of sleep^(8,9), which is of vital importance to each and every human being, including truckers.

The study shows that 129 (78.1%) truckers have insomnia and 68 (41.2%) take something for not sleeping during the trip. These data confirm the results of research⁽³⁾ that found that the majority of truckers spend an average of 12-14 hours behind the wheel. This factor leads to the use of stimulants and “*rebites*” (a popular name used by Brazilian truckers to designate amphetamines) to stay awake, which are very popular among these professionals and can be easily found in gas stations and snack bars on the road.

The diet is also one of the important factors with direct influence on the health of truckers. However, it is inappropriate in most cases, causing serious health problems in the medium and long terms. This is already noticed in a significant percentage of this population, as many of them

have developed chronic diseases such as diabetes and hypertension throughout life, affecting their QoL⁽⁴⁾.

In this context, health promotion actions indicate a path to improving health and life conditions of the population based on citizenship. Therefore, generalized actions to cause changes in the individuals are necessary to make them act as subjects in the society, with the capacity to control the situations they are subjected to, that is, to act as citizens⁽¹⁰⁾.

With regard to health problems, overweight and hypertension presented a significant percentage, 44.8% and 29.0% respectively. A research conducted with transportation professionals⁽¹¹⁾ warns that these professionals generally eat at roadside restaurants, being exposed to a greater availability of high-calorie foods with low nutritive value. Added to this are the high exposure to alcohol and the sedentary lifestyle, which can accelerate the onset of diseases such as acute myocardial infarction and cerebrovascular accident.

The results also show worrisome data regarding the acquired diseases, drawing attention to a significant number of interviewees (52.7%) who reported having spine problems. Study⁽¹²⁾ reinforces that the seat inadequacy is the main cause of low back pain. The types of gear shifts and steering wheels are also important ergonomic elements to avoid driver's fatigue and the onset of repetitive motion disorders.

With regard to physical ergonomics, the Ministry of Labor and Employment has created the Regulatory Norm 17 (NR 17) to establish parameters to adapt working conditions to the psychophysiological characteristics of workers in order to provide them with maximum comfort, safety and efficient performance. Although the NR has been established, it is possible to notice its inadequacy regarding truckers, maybe because they are unaware of its existence or because of a lack of supervision. Thus, there is a need for measures to punish not only employees but also employers, given that many of these professionals work in vehicles that belong to companies.

The majority of interviewees reported suffering from stress, as this labor activity has several factors that cooperate in the onset of this symptom, such as the hard work routine, the absence of family, and uncertainties and difficulties along the way on the roads. Thus, stressors are very common and compromise the well-being of this professional⁽¹⁴⁾.

Stress is now a major problem among truckers. They spend several hours at the wheel, attentive to traffic, with the cargo under their responsibility, short delivery times, risk of accidents, debts, and are away from the family, that is, these subjects are usually under pressure, with no

time for leisure or physical activity, and poor eating habits, causing them to get sick⁽⁴⁾.

Maintaining and promoting health should not only be the responsibility of the health sector, but the result of intersectoral and multidisciplinary actions supported by healthy public policies, that is, policies to promote quality of life. Health regarded as a central component of human development⁽¹⁵⁾.

Many interviewees in the present study (n=94) reported being involved in accidents. Faced with this, authors⁽¹⁶⁾ reported that the use of amphetamines to avoid sleep and reduce fatigue during long distance routes is very common among truckers, which may explain the accidents on the roads. Alcohol is also commonly consumed among truckers, being one of the main causes of traffic accidents and fatalities. The abuse of these substances is a major cause of traffic accidents and deaths and has become a major public health problem⁽¹²⁾.

Considering the Ottawa Chart definition, which says that health promotion includes strengthening and expanding the skills of individuals and communities to identify, analyze and take control over the social determinants of health, ensuring the improvement of conditions and QoL, it can be said that this work should be committed to the defense of increasing degrees of autonomy for the population, the co-responsibility for one's own care, for the care of the others, and for the care of the world⁽¹⁷⁾.

With regard to safety at work, the study showed that 70 (42.4%) truckers reported they have been victims of robbery in the last two years. This fact highlights the lack of safety that these workers have to face, both during their journey and rest breaks, as they need to sleep in the cab of the truck at the roadside or at gas stations – which do not provide safety – and are often surprised by robbers.

A research conducted in Brazil with 513 truckers⁽¹⁸⁾ identified two major truckers' complaints: safety and the role of the police. . Many said that the police is ineffective because it does not prevent robberies; moreover, they said that police officers are corrupt and extort money from them due to unfair fines.

The present study found that 63 (38.1%) truckers have already acquired some kind of STD, with a prevalence of gonorrhea, herpes, syphilis, and hepatitis B and/or C. Truckers' vulnerability to STDs/AIDS is not only associated with the time they stay away from home, but with the profession culture. Study reports some cultural aspects of men that make them more vulnerable to risky practices for STDs/AIDS, such as: feeling strong and immune to diseases; being impetuous and taking risks; being unable to refuse a woman; and thinking they need more sex than

women and that this desire is uncontrollable. Male infidelity is considered natural; female infidelity is attributed to partner's failure⁽⁴⁾.

Most of the interviewees in the present study (85.4%) reported being happy at work. Similar data have been found in another study⁽⁷⁾, in which 85% of the respondents reported they like being a trucker. The positive aspects of the profession highlighted by many of the truckers are the behavioral lifestyle, the search for new experiences, meeting places and different people, and even having contact with other women. Those who reported liking the profession are really passionate about what they do because they can get paid very well and because they have inherited their father's profession⁽⁶⁾.

Given the results found in the present study, there is a need to develop actions to improve the QoL of truckers and to implement health policies to ensure their right to receive comprehensive care, providing them with better working conditions and greater health care coverage. However, it is necessary that health authorities look upon this challenge seriously, making sure that effective measures are taken in order to improve the quality of life and the lifestyle of this population so that they can have decent working conditions. Therefore, health promotion is understood as a possibility of expansion of opportunities to produce the health of truckers.

CONCLUSION

There is a great exposure to risk factors imposed by this profession, which can significantly affect the execution of work and the quality of health of truckers. Therefore, it is necessary to make changes in their lifestyle and authorities must draw greater attention to these professionals.

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