



CONSUMPTION OF PSYCHO-STIMULANT DRUGS BY CARGO TRANSPORT PROFESSIONALS ON THE PRESIDENTE EURICO GASPAR DUTRA HIGHWAY, SÃO PAULO, SP – BRAZIL

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Article Received on
24 May 2023,

Revised on 14 June 2023,
Accepted on 04 July 2023

DOI: 10.20959/wjpps20238-25414

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ABSTRACT

The transportation of goods by land is the main means of product distribution and an important factor in driving the economy in Brazil. Due to the high demand for transportation, many truck drivers find themselves compelled to meet deadlines, which sometimes leads them to use pharmacological and non-pharmacological resources to suppress sleep, using psycho-stimulant substances commonly known as "rebites" (uppers). This study consists of a field research conducted through a questionnaire with the aim of identifying and quantifying the use of amphetamines among cargo transport professionals who travel on Brazilian highways. The goal was to gather data on the use of stimulating substances by these professionals, as well as identify possible distribution locations and adverse reactions experienced by them. Data were collected from truck drivers operating in the Vale do

Paraíba region in the state of São Paulo, Brazil. It was observed that 70.2% of the respondents use some type of psycho-stimulant substance, with caffeine (83.7%) being the most commonly used, followed by sibutramine (14.3%) and femproporex (6.1%). It was also observed that these professionals experience symptoms such as tachycardia, high blood pressure, and irritability, highlighting the need for awareness efforts, particularly regarding the role of pharmacists in addressing the risks and consequences of using medications in this class, given that 32.6% of the total interviewees claim to have acquired these substances from pharmacies and drugstores.

KEYWORDS: Amphetamines, Caffeine, Truckers, Psycho-stimulant drugs.

INTRODUCTION

In Brazil, the cargo transport system is the main means used to move the economy in the country, counting, for this, with approximately almost two million kilometers of highways,^[1] located mainly in the southeastern region of the country, especially in the State of São Paulo, whose 200,000 km of roads are used to transport more than 90% of all final production and services in the country^[2] and with more than four million workers in the sector, which represents 4.8 % of all workers in the country.

The national fleet of vehicles has more than 1.9 million vehicles for cargo transportation. Although the exact number of truck drivers is unknown, mainly due to the number of informal workers, it is estimated that more than one million people work in road freight transport driving vehicles. According to data from the National Land Transport Agency (ANTT), there are almost 700,000 self-employed or cooperative truck drivers in Brazil.^[3]

Among road professionals, the use of amphetamines and other stimulant drugs has become common in order to reduce sleep and decrease fatigue on long distance journeys,^[4,5,8,9] a practice that has become one of the main causes of traffic accidents and deaths.^[5,6,9] In addition, socioeconomic factors, such as debts, personal commitments, crisis in the transport sector and demands for cargo delivery in short terms, make many of these professionals work strenuous hours of more than 18 hours a day to fulfill their commitments and goals, resorting to the use of these drug-stimulants to reduce sleep and alleviate anxiety.^[8]

Amphetamines, drugs synthesized in the laboratory, consist of a group with a large list of substances, and can be marketed under drug formulas with different trade names such as: Desobesil-M® (Femproporex), Inibex S® (Amphedramone), Ritalin (Methylphenidate) etc.^[10] These are direct-acting sympathomimetic amines that cause stimulation of the medullary respiratory center, reduce the degree of central depression caused by various drugs, and produce other signs of central nervous system stimulation.

Its mechanism of action involves several neurotransmitters, such as dopamine, serotonin (5-HT), adrenaline and noradrenaline. This action is obtained mainly through the increase in synaptic levels of monoamines, – both by blocking reuptake and by increasing their release, inhibiting the enzyme monoamine oxidase and promoting the synthesis of

neurotransmitters.^[11] They are powerful stimulants of the Central Nervous System and, known among these professionals by the term “rivet”, whose effect is to make the brain increase the speed of work.^[12]

It should be noted that this pattern of effect can be achieved by substances other than amphetamines, including concentrates derived from methylxanthines, ecstasy and cocaine and its derivatives. Thus, people under the influence of these substances have insomnia, lack of appetite, accelerated speech and a greater sense of physical vigor in their body, being able to increase their productivity beyond normal, but with risks inherent to this practice, such as loss of attention, tachycardia and increased risk of obtundation, hypertensive crises and infarction.^[10]

When the drug is eliminated from the body, the user feels physical and mental fatigue and, if a new dose is administered, which usually happens, the effects return, but with less intensity, thus the body is overloaded and the risk of dependency. In addition, when the “treatment” is stopped, there is asthenia (lack of energy) and depression, as well as difficulty in carrying out activities in the same way as before using the drug.^[10]

The evaluation of the consumption profile of psychostimulants by truck drivers may allow the identification of consumption profiles and raise strategies for the prevention of health disorders resulting from this practice. Thus, in the present project, the objective is to evaluate, through data collection, through a questionnaire made to the transport professionals themselves, the dimension of the use of Drugs and/or psycho-stimulant substances, also known as "rivets" by these professionals, as well as elucidate the effects of using these drugs and map the ways in which they are acquired.

MATERIALS AND METHODS

This research was submitted and approved by the ethics committee for research with human beings of the uniFUNVIC university center, under number 68752423.0.0000.8116. A cross-sectional Field Study was carried out in an Exploratory way where 63 cargo transport professionals, who travel on the Presidente Dutra Highway and who form a heterogeneous sample, from the most varied regions of the country and who normally travel there, were approached by the researchers, at gas stations, restaurants and support points, along Via Dutra, between May and June 2023.

After this approach, the researchers made these professionals aware of the objectives, the importance and the need to map the use of psychostimulant substances by Cargo Transport Professionals, inviting them to take part in the research. After acceptance, each one was provided with a link to access a questionnaire (Annex 1), containing 15 questions, in order to map the occurrence of the use of drug-stimulants, their effects and ways of obtaining them on the highways that cross Brazil.

In order for the participants to feel more comfortable, they could choose to answer the questions orally, with their responses collected on site by the researcher equipped with a computer, linked in the form itself, or answer at another time, using their own equipment (Such as a cell phone), since, as mentioned, the questionnaire was made available in a virtual environment, with the answers computed automatically by the Google forms tool.

After data collection, tabulation and statistical evaluation were performed using the chi-square test, at a significance level of 5% and the Bioestat 5.0© software as a support tool.

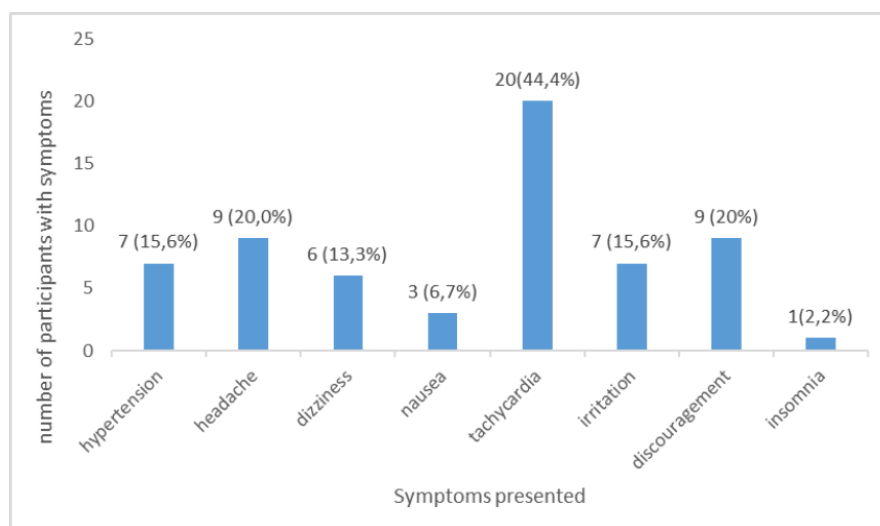
RESULTS AND DISCUSSION

Google Forms questionnaire responses were collected from 63 truck drivers aged between 21 and 75 years, with an average of 23.5 years. Participants reported having from 1 year to 40 years of experience in the profession and working both in short and long routes, with more than 50% being married.

It was observed that around 38.7% did not seek health care for more than 1 year, 1/4 of truck drivers work 8 hours a day, 22.8% drive more than 12 hours without interruption, that 55.7% drive more than 3 times a week with this time pattern.

Of the truck drivers interviewed, 45 claim to use psychostimulants during the trip, the most consumed being caffeine, which can cause dependence, followed by sibutramine, an amphetamine that has sleep disturbances as one of its main adverse effects, thus allowing you to stay awake for longer mostly purchased at gas stations, pharmacies and drugstores.

Finally, of the 45 psychostimulant users, 60% claim to have symptoms, as shown in Figure 1.



**significant difference ($p = 0.0241$) in relation to the other symptoms*

Source: The authors

Figure 1: Symptoms presented by truck drivers when using psychostimulant substances.

In the present research, it was observed that the majority (60%) of the participants used to use psychostimulant substances, these results being more expressive than those observed by some researchers, among which Knauth et al. (2012).^[13] Such researchers evaluated the consumption of psychostimulant substances among 854 truck drivers on the highways of Rio Grande do Sul, observing a practice of amphetamine consumption in 12.4% of the interviewees.

Despite the fact that in the present work a relatively higher consumption of amphetamines was observed,^[13] the researchers showed that this was the most used psychostimulant substance, however they showed that 70% of the interviewed truck drivers used alcohol, a fact that which may contribute to the not so intense adherence to the use of amphetamines.

The greater adherence to the use of amphetamines by truck drivers today may be due to the increase in the irregular production of such substances, with a consequent increase in their availability for purchase, as well as due to the increased rigor related to driving under the effect of alcohol, which became more intensely carried out after the enactment of 11705/2008, according to which the ingestion of any alcoholic beverage is prohibited when someone is going to take over the driving of a vehicle,^[14] it is worth noting that this law, known as the breathalyzer law, falls under the criminal part, so that any driver who is under the influence of alcohol is not only committing an infraction, but a crime.

The use of equipment called breathalyzers also contributes to the reduction of alcohol consumption, which allow the immediate identification of consumption and the alcohol content consumed by the driver.

With regard to the production of amphetamines, according to the 2011 UNODC (United Nations Office on Drugs and Crime) report, the illegal production of amphetamines emerged as a matter of concern only in 2009, in which two clandestine laboratories were identified production of said substances, but according to the said report at that time more priority was given to the control of substances more traditionally classified as drugs, such as cocaine and marijuana.

Another important result to be observed concerns the fact that a significant percentage of truck drivers 22.8% have a very exhausting workday, as they work around 12 hours uninterrupted, a factor that converges to a demand to stay awake. In this sense, the pressure for goals and financial demands, as well as the charges of transport companies, can significantly influence adherence to this practice, and may even persist even when creating regulations aimed at punishing the professional.

In this sense, when evaluating the consumption of amphetamines among truck drivers who circulate in the metropolitan region of Rio Grande do Sul, and identifying that 20.6% of a total of 97 drivers adhere to this practice, researchers evaluated the impact of the test requirement for psychoactive substances in the consumption of amphetamines by these truck drivers and concluded that even having established a requirement to carry out tests for the detection of drug use in samples of hair, this measure did not influence in the sense of reducing the consumption of amphetamines by drivers by truck.^[15]

Such authors point out as possible causes for this problem the poor working conditions and the poor conditions of the roads, which end up requiring long working hours, as well as the ease of acquiring drugs and false reports for exams.

With regard to the symptoms exposed here, it is noteworthy that the most frequently identified symptom was tachycardia, with 44.4% of reports. This symptom can also be explained both by the use of amphetamines and by the use of caffeine. As for the risks inherent in the use of amphetamines, it is known that adherence to this practice brings with it the occurrence of side effects such as insomnia, mood swings and tachycardia,^[16] thus

converging to an increase in severity for the health of truck drivers who use such substances.

As for caffeine, in the present study it was observed that the use of caffeine stood out (83.7%), even being superior to the use of amphetamines. It is known that caffeine is commonly used, as it blocks adenosine receptors in neurons of the central nervous system, resulting in an increase in their activity. Such a stimulating effect has a positive impact on alertness and mental energy, but in high doses it can cause dependence, tolerance and signs of agitation, nervousness and feelings of anguish, partly explaining some of the symptoms reported by the participants of the present research.^[17]

In addition to these symptoms, several authors attribute to caffeine a series of cardiovascular risks, particularly when used abusively.^[18,19,20] It is also known that excessive consumption may induce myocardial ischemia due to coronary artery spasm, cardiac arrest due to ventricular fibrillation and death.^[20] Likewise, heart palpitations and tachycardia may occur when excessive consumption of caffeine, explaining the risk inherent in that practice.^[19]

As a result of the strenuous workday, sedentary lifestyle and stress resulting from the profession, the emergence of health problems can be favored, specifically on the cardiovascular and metabolic system, and this risk may be even more worrying in truck drivers who consume caffeine in excess or amphetamines.^[20]

Finally, it is worth highlighting the way in which research participants purchase amphetamines, since most of them (34.9%) mentioned purchasing them at gas stations and restaurants, and 32.6% at pharmacies and drugstores, thus characterizing the sale of amphetamines. psychostimulant substances illegally, without neglecting to point out the negligence of the pharmaceutical professional, the technical manager of establishments that, according to ordinance 344/98, should only carry out sales through withholding of prescription, and, since they do not act in this way, fall under the crime of drug trafficking, even against the profession's code of ethics.

CONCLUSION

It was concluded that in the truck drivers who demonstrated that the population experienced there is a high practice of consumption of psychostimulant substances, with emphasis on caffeine and amphetamines, which presented tachycardia as the main undesirable effect.

It is also noteworthy that the majority of participants (67.5%) reported purchasing amphetamines illegally, in gas stations, restaurants and pharmacies, thus emphasizing the importance of better performance by smuggling, production and trafficking control bodies. of such substances, as well as the supervisory bodies of the pharmaceutical professional, in addition, obviously, to the importance of an ethical action by the latter, since this represents the last link between the medicine and its rational use.

Anexx

Anexx 1

CONSUMPTION OF PSYCHOSTIMULANT DRUGS BY CARGO TRANSPORT PROFESSIONALS ON THE PRESIDENTE EURICO GASPAR DUTRA HIGHWAY, SÃO PAULO – SP

(GOOGLE FORMS)

1. Initials of your name (identification):
2. Age:
3. Marital status:
 - Married
 - Single
 - Widower
 - Stable union
4. How long have you been working as a driver?
 - Less than 5 years ago
 - Between 5 and 10 years
 - Over 10 years
 - Between 10 and 20 years
 - Other:
5. What kind of vehicle do you drive?
 - Urban cargo vehicle
 - Truck
 - Cart
 - Articulated trailer
 - Dangerous goods vehicle
6. You make recurrent use of medications for which of these pathologies?
 - Diabetes
 - Hypertension
 - Heart problems
 - Neurological problems
 - I don't use it
7. Do you often use psychostimulants during your travels?
 - Yes
 - No
8. If your previous answer was yes, how often do you use these substance(s)?
 - Frequently
 - Rarely
 - Other:
9. Check which of these substances you have already used:
 - Caffeine
 - Sibutramine
 - Femproporex
 - Other:
10. If your previous response was other, name which psychostimulants have you used? Note: Here you can cite which or which substances you have used to stay awake, if these are not in the list above.
11. How do you generally acquire these substances?
 - With friends
 - With the company (contractor)
 - With strangers
 - In pharmacies and drugstores
 - In gas stations, restaurants and the like
12. If you do or have ever used a psychostimulant substance, which of these signs or symptoms have you experienced?
 - High blood pressure
 - Headache
 - Dizziness
 - Nausea
 - Tachycardia (racing heart)
 - Irritation
 - Despondency
 - No symptoms
 - Other:
13. How many hours a day do you usually drive without interruption?
 - 4 Hours
 - 6 Hours
 - 8 Hours
 - 12 Hours
 - Over 12 Hours
14. How often do you usually spend more than 24 hours driving?
 - Never
 - 1 time a week
 - Between 1 to 3 times a week
 - Over 3 times a week
15. When was the last time you sought medical attention for routine checkups?
 - Less than a month ago
 - More than a month ago
 - More than six months ago
 - More than a year ago

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