



## AMPHETAMINES CONSUMPTION AND ALCOHOL FOR TRUCK DRIVERS

### CONSUMO DE ANFETAMINAS E ÁLCOOL POR CAMINHONEIROS

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Marcos Luciano Pimenta Pinheiro<sup>1</sup>, Leidiana Fonseca Muniz<sup>2</sup>, Maria Cristina Venâncio da Silva<sup>3</sup>, Denise Pinho Resille<sup>4</sup>, Paulo Celso Prado Telles Filho<sup>5</sup>

#### ABSTRACT

**Objectives:** to evaluate the use of amphetamines and alcohol by truck drivers that travel on the Highway MGT 367, KM 583 in the city of Diamantina/MG, to contribute information about amphetamines, alcohol and the implications of its use for cargo vehicle drivers and to provide information on the rational use of medicines. **Method:** descriptive study in Weigh Station of the 8<sup>th</sup> Regional Coordinator of the Highways Department/MG in the city of Diamantina, in the period of 23-25 April 2012. The truck drivers answered a questionnaire on demographic data, consumer amphetamines and alcohol. The research project was approved by the Research Ethics Committee, Protocol Number 3246/2011. **Results:** out of 114 truck drivers, 15% used amphetamines, 41% used them daily. The main reason to use them is the companies' pressure (35%); access at gas stations (47%) and friends (35%). Only 2% used alcohol during work. The study shows the need for educational campaigns about risk of addiction, and effective enforcement on the highways on driving under the influence of psychoactive drugs and alcohol. **Descriptors:** Amphetamines; Alcoholic Beverages; Vehicles Driving.

#### RESUMO

**Objetivos:** avaliar o consumo de anfetaminas e álcool por motoristas de caminhão que trafegam na Rodovia MGT 367, KM 583, no município de Diamantina/MG, contribuir com informações a respeito das anfetaminas, álcool e as implicações do seu uso por condutores de veículos de carga e prestar esclarecimentos sobre o uso racional de medicamentos. **Método:** estudo descritivo, realizado no Posto de Pesagem da 8<sup>a</sup> Coordenadoria Regional do Departamento de Estradas e Rodagem/MG, no município de Diamantina, no período de 23 a 25 de abril de 2012. Os caminhoneiros responderam um questionário sobre dados sociodemográficos, consumo de anfetaminas e álcool. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, protocolo nº 3246/2011. **Resultados:** do total de 114 caminhoneiros, verificou-se que 15% faziam uso de anfetaminas, 41% usavam diariamente. O principal motivo para uso é pressão da empresa (35%); acesso nos postos de combustíveis (47%) e amigos (35%). Somente 2% usavam álcool durante o trabalho. O estudo mostra a necessidade de campanhas educativas sobre risco de dependência, além de fiscalização efetiva nas rodovias a respeito de dirigir sob o efeito de drogas psicoativas e álcool. **Descritores:** Anfetaminas; Bebidas Alcoólicas; Condução de Veículos.

#### RESUMEN

**Objetivos:** evaluar el consumo de anfetaminas y alcohol por motoristas de camiones que transitan en la Carretera MGT 367, KM 583 en el municipio de Diamantina/MG, contribuir con informaciones al respecto de las anfetaminas, alcohol y las implicaciones de su uso por conductores de vehículos de carga y esclarecer sobre el uso racional de medicamentos. **Método:** estudio descriptivo, realizado en el Puesto de Peso de la 8<sup>a</sup> Coordinadora Regional del Departamento de Carreteras/MG, en el municipio de Diamantina, en el período de 23 a 25 de abril de 2012. Los camioneros respondieron un cuestionario sobre datos sociodemográficos, consumo de anfetaminas y alcohol. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, protocolo nº 3246/2011. **Resultados:** del total de 114 camioneros, se verificó que 15% usaban anfetaminas, 41% las usaban diariamente. El principal motivo para uso es la presión de la empresa (35%); acceso en los puestos de combustibles (47%) y amigos (35%). Solamente 2% usaban alcohol durante el trabajo. El estudio muestra la necesidad de campañas educativas sobre riesgo de dependencia, además de fiscalización efectiva en las carreteras al respecto de dirigir sobre el efecto de drogas psicoactivas y alcohol. **Descritores:** Anfetaminas; Bebidas Alcohólicas; Conducción de Vehículos.

<sup>1</sup>Pharmacist, Professor, Department of Basic Sciences, Federal University of Vales do Jequitinhonha and Mucuri. Diamantina (MG), Brazil. E-mail: [marcospimenta2@gmail.com](mailto:marcospimenta2@gmail.com); <sup>2</sup>Student, Graduation Course in Nursing, Federal University of Vales do Jequitinhonha and Mucuri. Diamantina (MG), Brazil. E-mail: [leidymuniz@yahoo.com.br](mailto:leidymuniz@yahoo.com.br); <sup>3</sup>Student, Graduation Course in Nursing, Federal University of Vales do Jequitinhonha and Mucuri. Diamantina (MG), Brazil. E-mail: [tinadtna@hotmail.com](mailto:tinadtna@hotmail.com); <sup>4</sup>Medical and Veterinary Nurse. Master degree. Diamantina Municipal Health Secretary. Diamantina (MG), Brazil. E-mail: [deresille@outlook.com](mailto:deresille@outlook.com); <sup>5</sup>Nurse, Professor, Nursing Department, Federal University of Vales do Jequitinhonha and Mucuri. Diamantina (MG), Brazil. E-mail: [pgradotelles@outlook.com](mailto:pgradotelles@outlook.com)

## INTRODUCTION

Truck drivers are often exposed to different physical and mental health problems, since the work mainly affects sleep routine. Many of them report the need for the use of psychoactive substances such as amphetamines and alcohol to be alert and relieve anxiety.<sup>1-2</sup> However, when drivers make use of these substances they are more likely to fatigue and drowsiness, increasing the risk of accidents.<sup>3</sup>

Amphetamines are stimulants drugs of the central nervous system, popularly known in Brazil as “rebite” or “bolinha” and are found in anorectic drugs.<sup>4</sup> The side effects of such drugs such as blurred vision, increased irritability, cardiovascular, neurological and psychiatric disorders, cumulative with continued use can also lead drivers to cause accidents.<sup>5</sup> Amphetamine have a high potential for abuse, leading to the development of drug dependence.<sup>6</sup> In cases of overdose, toxicity is an extension of pharmacological effects occurring cardiac arrhythmias, hypertension, hyperthermia, acute renal failure, metabolic acidosis and coma.<sup>7,8</sup>

Epidemiological studies conducted in different countries have shown an increase of deaths and injuries in traffic accidents caused by drivers who have used medication and illegal drugs, combined or not with alcohol.<sup>9-11</sup>

In a research conducted in Campinas-SP, it was shown that the most (74%) of truck drivers drank alcoholic beverages, 70% made use of amphetamines to stay awake, and 20% reported having adverse effects such as tachycardia, anorexia, tremors, sweating, nervousness and hallucinations.<sup>11</sup>

A study conducted by analyzing urine samples from truck drivers driving along a highway in the state of São Paulo, and as result, it was found that 2.7% of participants had used amphetamines, 75% in isolation and 25% combined with another drug.<sup>3</sup>

Although the law prohibits the sale of alcoholic drinks and the marketing of amphetamines in gas stations and restaurants along the roads and highways, “rebite” is considered as cheap and of easily access by truck drivers.<sup>12</sup> Thus, it is necessary of preventive and educational campaigns targeting this occupation category in addition to a thorough inspection on the roads about driving under the effects of such substances. The truck drivers should be warned about the risks of dependence on a intensive information

job and awareness aimed at improving the quality of life of these professionals.

## OBJECTIVES

- To assess the use of amphetamines and alcohol by truck drivers that travel on the Highway MGT 367, KM 583 in the city of Diamantina/MG.
- To contribute information about amphetamines, alcohol and the implications of its use for cargo vehicle drivers and provide information on the rational use of medicines.

## METHOD

Descriptive study conducted at the Weigh Station of the the 8<sup>th</sup> Regional Coordinator of the Department of Highways of the State of Minas Gerais (DER-MG), located in MGT 367 highway, KM 583 in the city of Diamantina/MG with truck drivers.

Data collection was in the period from 23 to 25 April 2012 and schedules from eight to twelve o'clock established by employees of DER-MG and State Highway Patrol (PRE). When stopping the truck drivers after routine procedures, they were consulted on the possibility of participation in the survey, and where permitted, they were informed about the objectives of the study. The criteria for inclusion in the study was to be a truck driver.

There were 114 truck drivers participating who passed through the weigh station. They answered a questionnaire containing multiple-choice questions on socio-demographic data and use of amphetamines and alcohol. In order to maintain the anonymity of the subjects, each one received a relative number, in the order of conducting interviews and identified by the letter D, from drivers, followed by their number.

At the end of the interview, guidelines and distributed information leaflets on the risk of using amphetamines and alcohol, as well as notions about the rational use of medicines were passed to the participants.

Data were tabulated and analyzed using the Statistical Package for Social Sciences software (SPSS) version 17.0. It was used simple descriptive statistics, presenting the results through tables.

The ethical boundaries inserted into the National Health Council Resolution 196/96 were respected. The research project was submitted to the Ethics Committee in Research of the State University of Montes Claros - MG and obtained approval under Number 3246/2011.

RESULTS

All drivers interviewed were male. According to Table 1, out of the total of truck drivers interviewed (n=114), 38% (n=43) were in the age group between 40 and 49 years old. Regarding ethnicity, 43% (n=49) reported being white. Regarding marital status, 62% (n=71) of the subjects were married/cohabiting/consensual relationship. There was little education level, therefore

62% (n=71) reported incomplete/completed elementary school. There was a predominance of National Driving license category D (57%; n=65), followed by the category E (31%; n=35) and category C (12%; n=14). Most of them (73%; n=83) had a monthly income between 1 to and 3 minimum salaries. Regarding the region of origin, 74% (n=84) were from the southeast of Brazil, followed by 12% (n=14) in the Northern Region (Table 1).

Table 1. Socio-demographic profile of truck drivers who travel in the Highway MGT 367, in the city of Diamantina (n=114). Diamantina-MG, 2012.

Variables	n	%
Age group		
Under 30 years old	19	17,0
30 to 39 years old	32	28,0
40 to 49 years old	43	38,0
50 to 59 years old	15	13,0
Over 59 years old	5	4,0
Skin Color		
White	49	43,0
Black	19	17,0
Brown	45	39,0
Indian	1	1,0
Marital Status		
Single/ Divorced/widow	43	38
Married/cohabiting/consensual relationship	71	62
Education		
Incomplete/complete elementary school	71	62,0
Incomplete/complete high school	41	36,0
Incomplete/complete higher education	2	2,0
Average monthly income		
1 to 3 minimum salaries	83	73,0
4 to 5 minimum salaries	19	17,0
More than 5 minimum salaries	11	10,0
National Driving License Category		
Category C	14	12,0
Category D	65	57,0
Category E	35	31,0
Region of origin		
Northeast	4	4,0
South	5	4,0
Southeast	84	74,0
Midwest	7	6,0
North	14	12,0

In the use of amphetamines characteristics (Table 2), 41% (n=7) used them daily, 24% (n=4) once a week, 24% (n=4) two to three times a week and 11 % (n=2) four or five times.

As to the place of purchase and acquisition, 47% (n=8) of truck drivers reported to get them at gas stations and 35% (n=6) to get them through friends.

The main reason for using them was the pressure of the company (35%; n=6), followed by not sleeping (23%; n=4), to rush (18%; n=3),

to return home (18%; n=3) and to get more freight (6%, n=1).

When asked about the consequences of use, 52% (n=59) said they had no knowledge and 48% (n=55) reported heart problems, high blood pressure, tachycardia, insomnia, memory loss, physical and chemical addiction, hallucinations, loss of reflexes, nervousness and anxiety, among others.

Table 2. Characteristics of amphetamines use by truck drivers who travel in the highway MGT 367, in the city of Diamantina (n=17). Diamantina-MG, 2012.

Variables	n	%
Frequency of the amphetamines use		
Daily	7	41,0
Once a week	4	24,0
2 to 3 times a week	4	24,0
4 to 5 times a week	2	11,0
Purchase place/acquisition		
Pharmacy	1	6,0
Gas station	8	47,0
Shipping company/Company	1	6,0
Restaurant	1	6,0
Friends	6	35,0
Reason for amphetamine use		
Rush	3	18,0
Return home	3	18,0
Get more freight	1	6,0
Pressure of the company	6	35,0
Not sleeping	4	23,0

Table 3 shows the drinking characteristics. Out of all the investigated drivers, 63% (n=72) reported infrequent use of alcohol, 4% (n=5) use it daily and 33% (n=37) reported never having consumed alcohol. As for the frequency

of use during work, only 2% (n=2) reported this behavior.

Thirty (26%) truck drivers were involved in accidents, three of them with fatal victims. Two of them claimed to be under the influence of alcohol.

Table 3. Characteristics of the alcohol consumption during work by truck drivers who travel in the highway MGT 367, in the city of Diamantina (n=114). Diamantina-MG, 2012.

Variables	n	%
Habit of alcohol consumption		
Daily	5	4,0
Sometimes	72	63,0
Never	37	33,0
Use of alcohol drinks during work		
Yes	2	2,0
No	112	98,0
Involvement in traffic accident		
Yes	30	26,0
No	84	74,0

DISCUSSION

The results obtained can characterized truck drivers that travel in MGT 367 highway as having National Driving type D, aged between 40 and 49 years old, low education, coming from the southeast, white ethnicity, married with income monthly 1-3 times minimum wage.

In part, the demographic findings are similar to a study in Campinas - SP, in which the male and the marital status married/cohabiting/consensual of respondents were similar.<sup>11</sup> However, this study differs from other research in Cajazeiras - PB about the age group in which truck drivers had an average age to 39 years old and also the monthly income that was less than 6 times of the minimum wage.<sup>13</sup>

Regarding the use of amphetamines, the results of this study were lower than those found in research conducted in other Brazilian

states: Dourados - MS and Maringá - PR (65%); Campinas - SP (70%) and Cajazeiras - PB (80%).<sup>3,7,11,13</sup> On the other hand, 41% of the truck drivers that mentioned amphetamine use, consumed them daily, and this rate was lower than observed in a study conducted in Passos - MG, showing 27% of truck drivers consuming amphetamine daily, 5% once a week and 8% four to five times a week.<sup>14</sup>

Regarding the use of amphetamines, 35% reported that the main reason to use them as company's pressure to deliver the load in a short period of time, that is, the rush to get to the destination; the same was observed by other researchers.<sup>14</sup> Regarding the place of purchase, our data are similar to a study that also found that truck drivers acquired amphetamines at gas stations on the highways.<sup>15</sup>

Another aspect that should be taken into consideration is the ignorance that 52% of the participants had about the actions and effects

of amphetamine in the body. Another study found lower percentages of 20% of such ignorance reports.<sup>13</sup>

Heart problems, high blood pressure, tachycardia, insomnia, memory loss, physical and psychic dependence, hallucinations, loss of reflexes, nervousness and anxiety were listed by 48% who showed some knowledge on the use of amphetamines.

It is noteworthy that in October 2011, the Board of the National Agency for Sanitary Vigilance prohibited the importation, manufacture, and marketing of prescription amphetamine derivatives (amfepramone, fenproporex and mazindol) in Brazil, based on international studies that found the low efficacy of these drugs in weight loss and security risks of patients.<sup>16</sup> However, in this study truck drivers still can acquire them illegally at gas stations, from friends or by other means not informed.

It was observed that 4% of respondents reported drinking daily, 63% sometimes and 33% said they do not drink. Values below those recorded in a study in which 24% of truck drivers used alcohol every day, and 35% two to three times a week were found in another study.<sup>14</sup> However, according to the results of this research, only 2% reported drinking alcohol during working hours, also different results compared to a research conducted in Dourados - MS which reported an index of 31% of truck drivers using alcohol during work hours.<sup>7</sup>

The association of amphetamines with alcohol is totally contraindicated because alcohol potentiates the effects of these substances in the central nervous system, markedly decreasing the motor capacity and the alert in patients using antihistamines, anticonvulsants, antidepressants and amphetamines. The result of this interaction often leads to traffic accidents.

In this study, it was found that 10% of accidents involved alcohol and two with fatalities. In addition, 26% of drivers were involved in traffic accidents, and 7% reported having occurred after the consumption of alcoholic beverages. Driving under influence of alcohol is among the risk factors known to be the major contributor to mortality in traffic accidents.<sup>17</sup>

The prevalence of amphetamines and alcohol use among truck drivers varies greatly between the different epidemiological studies, because of methodological differences and assessment tools used.<sup>3,7,13</sup>

A limitation of this study is the fact that collection has been performed on a Weigh

station where there were police, which may have inhibited the truck drivers to provide reliable information for fear that these information would be given to them. This may explain the low consumption rate of amphetamines and alcohol. However, the choice of location was due to its proximity to the university campus, which facilitated the movement and the safety of researchers.

It is important to highlight that at the end of the interview guidelines and distributed information leaflets on the risk of using amphetamines and alcohol, as well as notions about the rational use of medicines were passed to the participants. This reinforces the Law 20358 of August 6, 2012 Minas Gerais, enacted by the government of Minas Gerais, which provide for the posting of informative posters, gas stations and restaurants located on the banks of state highways, alerting drivers about the risks they drive under the influence of alcohol, drugs or medication.<sup>18</sup>

In order to provide more security in traffic when transporting cargo and lives, the National Traffic Council (Contran) decided to make it mandatory drug testing of wide detection for professional drivers of category C, D and E. Resolution 460 was published in 2013 in the Federal Official Gazette (DOU). The measure provides that the tests should be performed at the time of renewal of the National Driver's License (CNH), the change in category or the first qualification in one of these categories, according to article 143 of Law 9.503/97. The regulation is based on the Law 12,619, of April 30, 2012, in Article 165 of the CTB and Contran Resolution 267 of 2008, which provides for driving under influence of alcohol or other psychoactive substances.<sup>19</sup>

## CONCLUSION

The study showed the need for preventive and educational campaigns targeting this occupation category in addition to a thorough inspection on roads and highways on driving under the influence of amphetamines and alcohol, and to warn truck drivers about the risks of dependence of these substances which can compromise their safety and others that travel on roads and highways.

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### Corresponding Address

Marcos Luciano Pimenta Pinheiro  
Faculdade de Ciências Biológicas e da Saúde  
Departamento de Ciências Básicas  
Universidade Federal dos Vales do  
Jequitinhonha e Mucuri, Campus I  
Laboratório de Farmacologia  
Rua da Glória, 187  
Bairro Centro  
CEP 39100-000 – Diamantina (MG), Brazil