Survey on the use of psychotropic drugs by twelve military police units in the municipalities of Goiânia and Aparecida de Goiânia, state of Goiás, Brazil

Pesquisa sobre uso de drogas psicotrópicas em 12 unidades da Polícia Militar nos municípios de Goiânia e Aparecida de Goiânia, Estado de Goiás, Brasil

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Abstract

Objective: To determine the prevalence of psychotropic drug use among military police officers in the state of Goiás, Brazil. Method: Study carried out at twelve military police units located in the municipalities of Goiânia and Aparecida de Goiânia between March to October 2008. Volunteers (n = 221) were interviewed about drug use using a questionnaire especially designed by the Centro Brasileiro de Informações sobre Drogas Psicotrópicas (CEBRID). Descriptive statistics was used to determine the prevalence of licit and illicit drug use in the study sample. Results: The frequency of use was divided into: 1) lifetime use: tobacco – 39.9%, alcohol – 87.8%, cannabis – 8.1%, cocaine – 1.8%, stimulants – 7.2%, solvents – 10.0%, sedatives, anxiolytics, antidepressants – 6.8%, LSD – 0.5%, Bentyl® – 0.5%, anabolic steroids – 5.4%; 2) use in the previous year: tobacco – 15.4%, alcohol – 72.9%, stimulants – 6.3%, solvents – 0.5%, sedatives, anxiolytics, antidepressants – 5.7%; 3) use in the previous 30 days: tobacco – 14.5%, alcohol – 57.5%, stimulants – 5.0%, solvents – 0.5, sedatives, anxiolytics, antidepressants – 3.7%. Conclusion: The high prevalence rate of psychotropic drug use found among military police officers in two cities of the state of Goiás in Brazil can be considered an important factor with potential influence on job activities.

Descriptors: Psychotropic drugs; Drug abuse; Drug users; Military police; Brazil

Resumo

Objetivo: Verificar a prevalência do uso de drogas psicotrópicas por membros da Polícia Militar no Estado de Goiás, Brasil. Método: Estudo realizado de março a outubro de 2008 em 12 unidades da Polícia Militar dos municípios de Goiânia e Aparecida de Goiânia. Participantes voluntários (n = 221) foram entrevistados sobre uso de drogas utilizando-se questionário desenvolvido pelo Centro Brasileiro de Informações sobre Drogas Psicotrópicas (CEBRID). A estatística descritiva foi usada para determinar a prevalência de uso de drogas lícitas e ilícitas na amostra estudada. Resultados: A frequência de uso foi dividida de acordo com: 1) qualquer época da vida: tabaco – 39,9%, álcool – 87,8%, maconha – 8,1%, cocaína – 1,8%, estimulantes – 7,2%, solventes – 10,0%, sedativos, ansiolíticos e antidepressivos – 6,8%, LSD – 0,5%, Bentyl® – 0,5%, esteroides anabolizantes – 5,4%; 2) último ano: tabaco – 15,4%, álcool – 72,9%, estimulantes – 6,3%, solventes – 0,5, sedativos, ansiolíticos, antidepressivos – 5,7%; 3) último mês: tabaco – 14,5%, álcool – 57,5%, estimulantes – 5,0%, solventes – 0,5, sedativos, ansiolíticos e antidepressivos – 3,7%. Conclusão: A alta prevalência do uso de drogas psicotrópicas por membros da Polícia Militar de duas cidades do Estado de Goiás, Brasil, pode ser considerada um fator importante com potencial influência sobre as atividades de trabalho.

Descritores: Drogas psicotrópicas; Drogas de abuso; Usuários de drogas; Polícia Militar; Brasil

Introduction

Currently, licit drugs such as alcohol and tobacco, and illicit drugs, such as cannabis, cocaine and amphetamines are used by millions of people all over the world. In Brazil, the scenario is not different, since the use of these substances increases every year,

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often with serious consequences for both users and society. They are harmful to the users' health not only because they may lead to acute or chronic intoxication, but also due to the psychomotor and behavioral changes that they cause.1-3

A situation that deserves special attention is the use of drugs at work, especially in corporations, institutions or by people holding positions that require constant concentration and emotional balance.

The results of several tests carried out at the Laboratory of Toxicological Analysis of the School of Pharmaceutical Sciences at the Universidade de São Paulo between 1992 and 2000 to verify the use of illicit drug by Brazilian employees working for business organizations (n = 12,700) revealed that 1.83% of the total number of urine samples analyzed were positive; of these, 59.9% were positive for cannabinoids (cannabis), 17.7% for cocaine, 14.7% for amphetamines, and 7.7% for a combination of two drugs.4

Another research involving 728 truck drivers from different regions of Brazil tested urine samples for the presence of amphetamine, methamphetamine, cannabis, and cocaine, and was positive for the drugs under study in 5.63% of the cases.5

These data and several other studies demonstrate the prevalence and the negative influence of drug abuse at the workplace. Employees tend to perform poorly alternate between periods of high and low productivity, make mistakes, have problems with discipline, memory failure, poor interpersonal relationships, and present increased absenteeism.1,2,6-8

The military are also at risk of having problems with alcohol and licit or illicit drug use. Moreover, since they perform specific activities that may involve the handling of weapons and public safety, drug use among the military requires that rigorous and appropriate measures be taken in order to control this modern "chemical weapon" which can cause addiction and a lot of harm.9

Some studies with the military in the United States and Europe have shown that there is great concern over drug abuse in military institutions. This is so mainly due to the discipline problems and the serious disturbance that may arise and cause trouble among the military on duty, thus threatening their own health and security and that of their family members. Such situation calls for the adoption of appropriate measures needed to provide the military with rehabilitation and addiction treatment programs so that they can recover from chemical dependency.10-12

To the best of our knowledge, with the exception of the work by Maia et al., on posttraumatic stress disorder in an elite unit of the military police force of Goiás, no scientific research on psychotropic drug use among military police officers has been carried out to this date in Brazil. We did perform a thorough literature review but were unable to locate any studies.13

In this study, we conducted a survey to verify the frequency of psychotropic, licit, and illicit drug use by the military police force in two cities of the state of Goiás, and compared it against the frequency of use by society in general.

Method

This survey on the legal and illegal drug use and abuse among the Brazilian military police force was approved by the Research Ethics Committee of the Universidade Federal de Goiás (protocol n. 016/2007) and by the General Command of the Military Police of Goiás. It was published in the Newsletter of the General PMGO issue 31, on February 14th, 2006.

Researchers visited twelve military police units located in the municipalities of Goiânia and Aparecida de Goiânia in the state of Goiás where 1,709 professionals work. The units were selected due to their easy access as well as the receptivity and approval of the unit commanders. All the police officers were verbally informed about the purpose of this study and the application of the self-administered questionnaire, which should be returned by the end of the workday, guaranteeing total confidentiality as well as no risk of harm to the subjects. All officers were provided with two copies of a written free and informed participation consent form. Unreturned questionnaires were considered as refusal to participate in the study.

The sample was composed of 210 males and 11 females (n = 221) who filled out and signed the free and informed consent form, received a specific questionnaire, anonymously answered it, and then returned it to the researchers. The small number of women who participated in the research can be explained due to the fact that currently only 10% of all the police officers in the Military Police of Goiás are females. We Two hundred and ninety nine questionnaires were distributed and 221 were returned by the end of the workday, representing a 26% refusal rate.

This survey was conducted between March to October 2008 by applying a specific questionnaire developed by the Centro Brasileiro de Informações sobre Drogas Psicotrópicas (CEBRID).14 The questionnaire used the following classification of frequency of psychotropic drug use: lifetime use (for participants who have used a particular drug at least once in their lifetime), l use in the last year (for participants who have used a particular drug at least once in the previous twelve months) and use in the previous 30 days (for participants who have used a particular drug at least once in the previous 30 days).15 The questionnaire addressed questions concerning the use of licit drugs, such as tobacco and alcohol, illicit drugs such as cannabis, cocaine, crack, amphetamines and solvents, as well as anabolic steroids among other drugs that were spontaneously mentioned. In addition to the questions about the use of psychotropic drugs, several others other aspects were contemplated in order to cover some social-demographic items, particularly with respect to age, gender, religion, and relationships in the workplace. Due to the small number of female participants, the questionnaires were not separated by gender and all participants were considered as belonging to the same group.

The sample size was calculated using the StatCalc function of Epi Info software (version 3.5), based on the size of the population under study, as well as on the percentage of drug use found in an epidemiological survey16 and in prevalence studies4,5,8 performed by Brazilian researchers.
To obtain the frequency of drug use, results were analyzed using SPSS 16.0 for frequency analysis and chi-square test. Significance level was set at p < 0.05.

Results

The questionnaires answered by the military officers who participated in this research revealed that 95% were men (n = 210) and 5% were women (n = 11), distributed according to gender and age groups as follows: 20-25 years old (n = 10) – 100% male; 26-34 years old (n = 64) – 95.3% male and 4.7% female; ≥ 35 years old (n = 147) – 94.6% male and 5.4% female.

With respect to their religious orientation, officers were distributed as follows: Catholic – 34.4%; Protestant – 26.7%; Spiritualist – 7.7%; other religions – 3.6%; and no religion – 27.6%.

The quality of their relationships at the workplace was described by the participants as: great – 62.4%; good – 32.1%; regular – 1.4%; and no answer – 4.1%.

The frequency of psychotropic drug use by the subjects of this study is presented in Table 1. Based on the participants' answers, the following frequencies of consumption were detected: (1) during lifetime period: tobacco – 39.9%, alcohol – 87.8%, cannabis – 8.1%, cocaine – 1.8%, stimulants – 7.2%, volatile solvents – 10.0%, sedatives, anxiolytics, antidepressants – 6.8%, LSD – 0.5%, Bentyl® – 0.5% and anabolic steroids – 5.4%; (2) in the previous year: tobacco – 15.4%, alcohol – 72.9%, stimulants – 6.3%, volatile solvents – 0.5%, sedatives, anxiolytics, antidepressants – 3.7%; (3) in the previous 30 days: tobacco – 14.5%, alcohol – 57.5%, stimulants – 5.0%, volatile solvents – 0.5%, sedatives, anxiolytics, antidepressants – 3.7%.

Table 1 - Survey on psychotropic drug use in 12 Military Police units in Goiânia and Aparecida de Goiânia, state of Goiás, from March to October, 2008 (n = 221)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Time of drug use</th>
<th>Frequency of drug use (n)</th>
<th>Drug use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Lifetime</td>
<td>88</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>34</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>32</td>
<td>182</td>
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<tr>
<td>Alcohol</td>
<td>Lifetime</td>
<td>194</td>
<td>21</td>
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<tr>
<td></td>
<td>Last year use</td>
<td>161</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>127</td>
<td>80</td>
</tr>
<tr>
<td>Cannabis</td>
<td>Lifetime</td>
<td>18</td>
<td>203</td>
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<tr>
<td></td>
<td>Last year use</td>
<td>0</td>
<td>215</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>0</td>
<td>213</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Lifetime</td>
<td>4</td>
<td>215</td>
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<tr>
<td></td>
<td>Last year use</td>
<td>0</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>0</td>
<td>218</td>
</tr>
<tr>
<td>Crack</td>
<td>Lifetime</td>
<td>0</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>0</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>0</td>
<td>217</td>
</tr>
<tr>
<td>Anorexigenic drugs**</td>
<td>Lifetime</td>
<td>16 (6)**</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>14 (7)**</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>11 (6)**</td>
<td>206</td>
</tr>
<tr>
<td>Inhaled psychotropic substances†</td>
<td>Lifetime</td>
<td>22</td>
<td>196</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>1</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>1</td>
<td>217</td>
</tr>
<tr>
<td>Sedatives, anxiolytics, antidepressants††</td>
<td>Lifetime</td>
<td>15</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>8</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>8</td>
<td>206</td>
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<tr>
<td>Bentyl®†††</td>
<td>Lifetime</td>
<td>1</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>Last year use</td>
<td>0</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>In the past 30 days</td>
<td>0</td>
<td>216</td>
</tr>
<tr>
<td>LSD</td>
<td>Lifetime</td>
<td>1</td>
<td>220</td>
</tr>
<tr>
<td>Anabolic steroids†</td>
<td>Lifetime</td>
<td>12</td>
<td>209</td>
</tr>
</tbody>
</table>

* No answer
** Amphetamines, ephedrine, fenproporex, amphetamine, Desoxat®, Duralid®, taken without medical prescription
*** Amphetamine derivatives between parentheses
† Glue, industrial organic solvents, and a mixture of ether, chloroform, and aromatic scents named "lança-perfume" in Brazil
†† Benzodiazepine and fluoxetine
††† Dicyclomine (anticholinergic agent)
‡ Decadurabolin®, Durabolin®, Durateston®, Hemogenin®
in the Midwestern region of Brazil (73.6%) as well as in Chile (86.5%) and the United States (82.4%). In our study, the prevalence rates of alcohol use in the previous year and in the previous 30 days were 72.9% and 57.5%, respectively. Most participants (55.6%) reported that they had ingested alcohol for the first time between the ages of 10 and 18: 3.7% between 10 and 12; 19.4% between 13 and 15; 32.5% between 16 and 18; and 44.4% over 18 years of age. Another relevant finding of this study was that 38% of the subjects reported that they had ingested alcohol anywhere from one to five days before the survey.

Lifetime use rate of cannabis as mentioned by participants was 8.1%, lower prevalence rate compared to that of medical school students attending the Universidade Federal do Amazonas (9.4%), Brazil in general (8.8%), and Greece (8.9%), and closer to the results found in the Midwestern region of Brazil (7.8%) and Poland (7.7%), though still below the prevalence rate found in the United States (40.2%), the United Kingdom (30.8%), France (26.2%), Germany (24.5%), Italy (22.4%), Chile (22.4%), Sweden (13.8%), and at the Universidade Estadual Paulista in Brazil (17%).

Lifetime prevalence rate of cocaine use in the study group was 1.8%, i.e., lower than that reported by surveys carried out in 2001 (2.3%) and in 2005 (2.9%) for Brazil as a whole, as well as for medical school students at the Universidade Estadual Paulista (3.0%), and similar to the prevalence rate found in the Midwestern region of Brazil (2.2%) and at the Universidade Federal do Amazonas (2.1%). Compared to other countries, our result was lower than the one found in Germany (3.2%) and well below the rate reported for the United States (14.2%), United Kingdom (6.8%), Chile (5.3%), and Italy (4.6%).

Lifetime use of stimulant drugs such as amphetamines was reported by 3.6% of the subjects, which coincides with results found in the surveys conducted at the Universidade Federal do Amazonas (30.7%) and Universidade Estadual Paulista in the Brazilian city of Botucatu (33%). The prevalence of tobacco use in the previous year (15.4%) and in the previous 30 days (14.5%) was higher than that found in Brazil in general (10.1%), and in the Midwestern Region of Brazil in 2005 (11.5%).

Lifetime alcohol use rate was reported by the 221 research subjects showed a prevalence of 87.8%, which coincides with results found in the surveys conducted at the Universidade Federal do Amazonas (87.7%) and Universidade Estadual Paulista (84%), but is higher than those found in Brazil (74.6%) and in the United States (79.5%).

**Tables 2 and 3 show that use of drug is not associated with religion and relationship in the workplace (p > 0.05), indicating that paired observations on the two variables are independent of each other – i.e., neither religion practice nor relationship in the workplace differ in the prevalence of the reported use of psychotropic drugs.**

**Discussion**

The overall results on the use of psychotropic drugs by the police officers who work at twelve military police units assessed in Goiânia and Aparecida de Goiânia revealed different patterns of use in relation to lifetime use, use in the previous year, and use in the previous 30 days. Higher frequencies for legal drugs, such as tobacco and alcohol were seen.

Prior to this work, Maia et al. conducted a survey on post-traumatic stress at elite units of the military police force of Goiás. The authors the existence of relationship between stress intensity and use of psychotropic drugs. Maia et al. did not, however, specify if such drugs had been prescribed as medication for controlling post-traumatic stress.

Lifetime prevalence of tobacco use was 39.8% in the group of military police officers, while another survey reported a rate of 44.0% in Brazil as a whole and 41.9% in the Midwestern region of Brazil. The present result is lower than those observed in other countries such as Chile (72%) and the United States (67.3%), but higher than those found among students of health sciences attending at the Universidade Federal do Amazonas (30.7%) and among students of the School of Medicine at the Universidade Estadual Paulista in the Brazilian city of Botucatu (33%). The prevalence of tobacco use in the previous year (15.4%) and in the previous 30 days (14.5%) was higher than that found in Brazil in general (10.1%), and in the Midwestern Region of Brazil in 2005 (11.5%).

Lifetime alcohol use rate was reported by the 221 research subjects showed a prevalence of 87.8%, which coincides with results found in the surveys conducted at the Universidade Federal do Amazonas (87.7%) and Universidade Estadual Paulista (84%), but is higher than those found in Brazil (74.6%) and...
Other non-stimulant amphetamines had the following prevalence rates: lifetime use – 3.6%, use in the previous year – 3.1%, use in the previous 30 days – 2.3%. These data show that the use of stimulant and non-stimulant amphetamines (e.g. sibutramine), energy drinks and others is equivalent (p > 0.05).

It is interesting to see in literature that the lifetime use rate of anxiolytics is higher for women. However, in spite of the fact that this study was comprised mainly of males (94.6%), they too, on one hand, reported a prevalence rate of lifetime use of anxiolytics of 6.8%, which is higher than the results found for Brazil in general (5.6%) and for the Midwestern region of Brazil in 2005 (3.6%), and for Brazil as a whole in 2001 (3.3%), probably due to work-related stress factors, considering that survey participants are military police officers. On the other hand, prevalence rates found in the present survey were lower than those obtained by researches in the United States (8.3%), at the Universidade Federal do Amazonas (9.2%), and in Chile (30.5%). The reported prevalence rate of use of anxiolytics both in the previous year and in the previous 30 days was 3.7%.

The prevalence rates of solvent inhalation by the subjects of our survey were 10.0% for lifetime use, 0.5% for use in the previous year, and 0.5% for use in the previous 30 days. The percentage of lifetime use of solvent inhalation in this study group was higher than those found in Colombia (1.4%), Belgium (3.0%), and Spain (4.0%) as well as those observed in Brazil as a whole in 2001 (5.8%) and in 2005 (6.1%), but very close to those reported for students pursuing degrees in health sciences at the Universidade Federal do Amazonas (11.9%) and in the United States (9.5%).

Lifetime use of anticholinergic Bentyl® was reported by one participant (0.5%), a prevalence rate close to those observed in surveys performed for Brazil in general in 2005 (around 1.0%) and at the Universidade Federal do Amazonas (0.4%).

Only one participant (0.5%) reported lifetime use of the hallucinogens LSD and ecstasy, a result similar to those observed in Brazil as a whole in 2005 (1.1%) and at the Universidade Federal do Amazonas (1.2%), but much lower than that found in the United States (14.3%).

Although anabolic steroids are not included in the category of psychotropic drugs, they were also investigated in this survey since certain research studies have demonstrated the abuse of these substances, especially at fitness clubs. In the present study, there were reports of anabolic steroid use by 5.4% of the subjects, which is exactly the same rate found in the survey carried out with males attending the Universidade Federal do Amazonas (5.4%). Nevertheless, this rate is much higher than that observed in Brazil in general in 2005 (0.9%), which, in turn, was already three times higher compared to 2001 (0.3%). Our study also found a higher prevalence of anabolic steroid use compared to other studies carried out with civilians. This may be explained by the nature of the specific activities performed by military police since, depending on the circumstances, officers are required to use physical force in conflict situations. These data indicate that serious measures are required to prevent the use of these substances, mainly by users of fitness centers and the military police force.

The comparison made between the religion practiced and the use of psychotropic drugs did not show any association that could establish some tendency to greater abuse in a particular religious denomination (p > 0.05). Similarly, the comparison between religion and relationship in the workplace showed no significant difference (p = 0.616).

A comparison of the relationship in the workplace and the use of psychotropic drugs did not demonstrate any association to justify the higher consumption of drugs and/or changes in behavior in the workplace.

This survey showed that in spite of the specificity of the study group, the results obtained were generally similar to those found in other national and international researches, especially considering those reported for the Midwestern region of Brazil.

It is important to point out that the results of the present survey on the lifetime use of tobacco, alcohol, cannabis, cocaine, benzodiazepines, amphetamines, anorexigenic drugs, and solvents did not show absolute differences when compared to those reported for Brazil in general in 2005. Thus, in spite the typical constraints imposed on any research work conducted with the military, including a strict hierarchical structure, fear of being identified and of the consequences of their answers, it is clear that the military police and the civilian communities in general have a similar risk of becoming users of licit and illicit drugs. This situation of vulnerability led to no identification of the participants in the study to avoid ethical conflicts, since the participation was spontaneous and the confidentiality was fully preserved at all stages of the process, to ensure the privacy of the results.

Finally, a survey that focuses specifically on the military force allows for the diagnosis of the current situation and points out to the need of creating and/or implementing specific drug abuse prevention policies aimed at this community, whose duties require constant concentration and balance in order to be able to perform its job properly.
Disclosures

<table>
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<tr>
<th>Writing group member</th>
<th>Employment</th>
<th>Research grant1</th>
<th>Other research grant or medical continuous education2</th>
<th>Speaker’s honoraria</th>
<th>Ownership interest</th>
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* Modest
** Significant: Amounts given to the author’s institution or to a colleague for research in which the author has participation, not directly to the author.

Note: UFG = Universidade Federal de Goiás; USP = Universidade de São Paulo; PIBIC = Programa Institucional de Bolsas de Iniciação Científica; PUC-GO = Pontifícia Universidade Católica de Goiás; HPM = Hospital da Polícia Militar.

For more information, see Instructions for Authors.

References


