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## The prevalence of psychotropic substance use and its influencing factors in lithuanian penitentiaries

### Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Data Interpretation
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### Summary

#### Background:

This paper examines the prevalence of psychotropic substance (tobacco, alcohol, narcotic drugs) use among inmates of Lithuanian prisons and the association between drug use and psychosocial factors.

#### Material/Methods:

The questionnaire used was based on the ESPAD questionnaire, modified to fit the specific respondent group. At the time of the study there were 9634 inmates in Lithuanian penal institutions; 1304 of them participated in the study, 67 (5.2%) were women, 115 (8.8%) boy minors, and 1122 (86%) men. Statistical analysis was carried out using *EpiInfo 6.04*.

#### Results:

It was revealed that 48.7% of the prisoners had used drugs at least once in their lives, 13.8% of prisoners currently used narcotic drugs, and 39.8% had first used illicit (narcotic) drugs in prison. 85.3% currently smoked tobacco and 92.1% had drunk alcohol at least once in their lives.

#### Conclusions:

Psychotropic substances are often used due to their psychological impact. Imprisoned people constitute a high-risk group of drug users and distributors of narcotic drugs. Consequently, the problem of psychotropic substance addiction in penal institutions awakens more concern than the same problem in the general society. Intravenous narcotic drugs stimulating dangerous behavior are prevalent in Lithuanian prisons.

#### key words:

psychotropic substances • prison • drug abuse • smoking • psychosocial factors • alcohol

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## BACKGROUND

The American Social Health Association claims that tobacco is one of the major causes of death in the general population [1]. It influences cardiovascular and cancer diseases. Numerous studies proved that these diseases were often the causes of death among people who spent much time in jail [2]. Although few studies have been made on the prevalence of tobacco use in penal facilities, American scientists admit that, according to the available data, the majority of inmates smoke [1]. Tobacco smoking is present in the majority of institutions, especially in olden imprisonment establishments that have poor ventilation systems.

The use of alcohol harms family and professional life, leads to social problems such as alcoholism, accidents, criminal behavior, violence, murders, and suicides. According to statistics provided by the World Health Organization (WHO), the use of alcohol is the cause of around 40% to 60% of intentional and unintentional injuries.

When analyzing the use of drugs and other psychotropic substances in penal institutions, it is important to mention that over-boiled tea and over-pressed coffee, classified as a stimulating substance, are often used. Inmates can buy tea and coffee in shops on the premises of the prison facilities. These products create a specific method of relationships among convicts.

A study and an opinion poll were carried out in a prison in England in 2002 [3]. After several talks in groups it was found out that the inmates mental health was mostly influenced by isolation, lack of intellectual activity, and drug overuse. Bad relationships with the staff, compulsion, and little communication with family members were also indicated. The lack of intellectual and physical activity causes stress, anger, and despair. Drug overuse is a way of getting accustomed to the environment of a penal institution, a way of "escaping" from bad thoughts and making time flow faster.

Inmates are attributed to the high-risk group of drug trafficking and use, which makes drug addiction spread in such establishments. Researchers in Western Europe and the USA emphasize in their studies [4] that the prison environment is a serious risk factor that influences the start and the continued use of psychoactive substances.

The objective and the goals of this study were intended to test the hypothesis that the psycho-sociological environment of penal institutions influences the spread of drugs and other psychotropic substances as well as their use. The principal aim of this study was to determine the prevalence of the use of psychotropic substances and the factors that influence it in Lithuanian penal institutions.

## MATERIAL AND METHODS

The questionnaire used was compiled on the basis of the ESPAD questionnaire (The European School Survey Project on Alcohol and Drugs, 1999) with some modifications to fit the specific respondent group. Questions that did not meet the objectives of the study were left out and new questions characteristic of the focus group were included. The questions were meant to determine the age, education, marital

status, living conditions, and social environment of the respondents, when tobacco, alcohol, and drug use began, the problems their family members or close friends have as far as drug use is concerned, the respondents' opinions on the influence that tobacco, alcohol, drugs, and other psychotropic substances have on their health.

## Ethical issues

The sociological study, an opinion poll, was carried out from April to August 2003. To get more sincere answers, the questionnaire was anonymous; no personal data had to be indicated. The respondents received and returned the questionnaires directly to the researcher. At the moment of the study there were 9634 persons in Lithuanian penal institutions, 1304 of whom participated in the study; 67 (5.2%) were women, 115 (8.8%) boy minors, and 1122 (86%) men.

## Methods of answer evaluation

The questionnaire was submitted to a reliability test. The Kappa index was calculated and ranged from 0.3 to 1. Questions that were found inadequate were rephrased. After this questionnaire test, another reliability test was carried out. The Kappa index-based double check proved that the questions were good or almost precise and led to the final version of the questionnaire.

## The processing of statistical data

Statistical analysis was carried out using *EpiInfo 6.04*. To establish possible correlations between the separate risk factors and smoking, alcohol, and drug use and the perception of their impact on health as well as to postulate possible causes, a one-phase dispersive analysis of the questionnaire data was carried out applying the SPSS 11.0 software package. The statistical reliability of frequency inequality was evaluated by calculating chi square ( $\chi^2$ ) and *p* values. For the verification of statistical hypotheses, the chosen significance level was  $p < 0.05$ .

## RESULTS

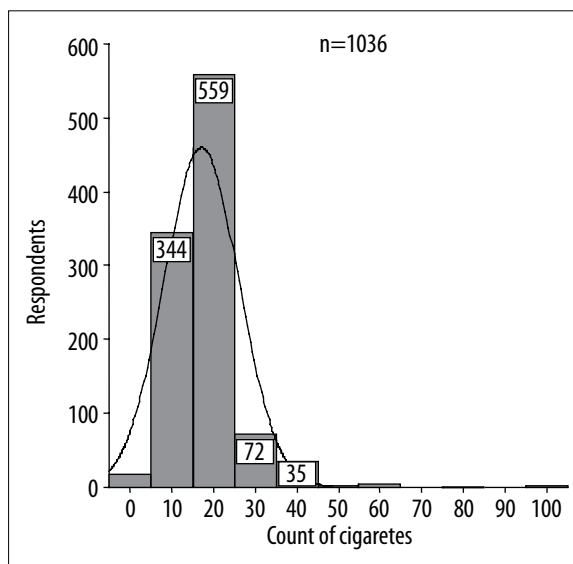
The age of the people imprisoned in the selected penal institutions was from 15 to 78 years (average:  $27 \pm 8.6$  years, men:  $27.8 \pm 7.7$ , women:  $34.4 \pm 12.6$ , minor boys:  $16.7 \pm 0.6$ ). Most of the respondents were young and employable (Table 1). One third of the inmates (29.4%) had secondary education, 3.4% only primary education (1–4 years of school), and 1.2% had higher education. A statistically significant majority (51.4%,  $p < 0.05$ ) of the inmates had "basic" education (5–9 years of school). 59.8% of the respondents grew up in two-parent families, 3.1% grew up with their father, and 27.4% only with their mother. 2.9% of the inmates grew up in social establishments (orphanages, boarding-schools, etc.) or indicated that they were orphans. 3.9% grew up with grandparents. 65.5% were single, 16.1% married.

85.3% of the inmates were smokers. In penal institutions there was a statistically significant majority of smokers ( $p < 0.05$ ): 85.5% of the men and 82.1% of the women. The average age when the respondents started to smoke was  $14 \pm 4.1$  years. A statistically significant ( $p < 0.05$ ) link between the education of the inmates and the age when they start-

**Table 1.** The average age of inmates in different houses of correction.

Correction institution	Mean age	Mode (Mo)	Max age	Min age	Standard error of the mean ( $\pm m$ )	Coefficient of variation V (%)
Alytus House of Correction (n=175)	28.4 $\pm$ 7.6	26	67	18	0.575	26.8
Marijampolė House of Correction (n=118)	26.6 $\pm$ 4.9	23	41	18	0.454	18.4
Vilnius 2 house of correction (n=202)	31.5 $\pm$ 8.6	26	64	19	0.604	27.3
Pravieniškės 3 house of correction (n=132)	23.6 $\pm$ 4.7	20	41	18	0.406	19.9
Pravieniškės 1 house of correction (n=164)	24.9 $\pm$ 6.02	20	55	18	0.470	24.2
Pravieniškės 2 house of correction (n=327)	28.5 $\pm$ 8.9	21	78	18	0.491	31.2
Panevėžys house of correction (n=67)	34.4 $\pm$ 12.6	43	70	18	1.533	36.6
Kaunas Juvenile house of correction (n=115)	16.7 $\pm$ 0.6	17	17	15	0.059	3.6

$F=59.314$ ;  $-p < 0.05$ .

**Figure 1.** Number of cigarettes smoked a day by inmates in Lithuania.

ed to smoke was noted. The respondents who had primary (1–4 years) and basic (5–9 years) education tended to start smoking earlier than those who had secondary or higher education. The question about the number of cigarettes smoked a day was answered by 1036 respondents (79.7%). They usually smoked a pack of cigarettes a day (there were 20 cigarettes in a pack): approximately 17 $\pm$ 8.97 cigarettes (standard average bias: 0.28, median: 18, mode [the most frequent value]: 20). Five hundred fifty-nine (53.9%) inmates smoked 20 cigarettes a day (Figure 1).

The average age of first alcohol use was 14 $\pm$ 3.76 years. An analysis of smoking and alcohol use revealed that 86.3% of the smokers used beer before imprisonment, 85.6% wine, 87.3% vodka, and 90.7% alcohol surrogates. A statistically significant majority of smoking inmates had a greater tendency to start using alcoholic drinks earlier. 47.9% of the inmates had not tried over-boiled tea and over-pressed coffee, 55% of the convicts used these drinks every day.

48.7% of the inmates had tried narcotic drugs at least once: 31.3% were women and 49.9% men, a statistically significant majority ( $p < 0.05$ ). The average age of the first narcotic drug use was 19.9 $\pm$ 5.2 years. The majority of the respondents had tried narcotic drugs for the first time at the age of 20. The youngest indicated age was 7 years, the oldest 50.

Having evaluated the relation between illicit narcotic drug use and smoking, it was found that 51.9% of the smokers had tried drugs at least once; among the non-smokers, 31.9% had such experience. The smokers had a statistically significantly ( $p < 0.05$ ) greater tendency to try drugs than non-smokers.

13.8% of the inmates used drugs. All of them were men. Those who had tried drugs earlier had a statistically significant ( $p < 0.05$ ) tendency to continue using narcotic drugs. 39.8% of inmates indicated that they had tried narcotic drugs for the first time in a penal institution. 52.1% of the inmates used intravenous narcotic drugs, 2.4% pills (via mouth), 2.4% snuff (via nose), 6.5% smoked narcotic drugs, 36.7% used mixed forms (snuff, pills, intravenous narcotic drugs). 51.7% of the inmates who had tried any narcotic drugs for the first time in a penal institution used them intravenously. Analysis of the relation between the form of narcotic drug used and the place where it had first been tried revealed that a statistically significant majority of those who started using narcotic drugs in a penal institution preferred intravenous use to smoking narcotic drugs, taking narcotic pills, or snuffing ( $p < 0.05$ ).

55.6% of the inmates claimed that psychotropic substances were easily available in a penal institution, 19.5% that they were not easily available, and 24.9% indicated that they did not know. The inmates claiming that it was easy to obtain drugs in a penal institution formed a statistically significant majority ( $p < 0.05$ ).

48.2% of the inmates stressed that the most important reason for drug use in a penal institution was to distance themselves from problems, 17.5% of the drug users said that it was only for the sake of having fun, for 14.6% drug use was

induced by despair, for 2.9% by unemployment, and 16.8% drug users indicated several reasons.

Among the inmates who used drugs in penal institutions there was a statistically significant majority of those who were imprisoned for the first time (35.3%) compared with those who had been imprisoned more than once ( $p=0.01$ ). The number of times a person has been imprisoned correlated minutely but statistically significantly with the habit of using narcotic drugs in a penal institution (Spearman's correlation coefficient  $r=-0.1$ ;  $p=0.001$ ); the more times the convicts were imprisoned, the fewer of them used narcotic drugs. Among those who were imprisoned for crimes directly related to narcotic drugs, 38.1% used narcotic drugs in penal institutions and 61.9% did not. This difference was statistically significant ( $p<0.05$ ).

## DISCUSSION

Farrell et al. [5] found that the average age when people start to smoke in the USA was 15 years. The research carried out in Lithuanian penal institutions showed that the average for Lithuania was 14 years. According to Patkar et al. [6], the number of cigarettes smoked per day at the age of 18–20 was related to poor mental health, psychiatric diagnoses, low level of self-control, constant nervous strain, abuse of other substances such as alcohol and narcotic drugs, and divorce of the parents. The fact that the majority of the inmates started to smoke at the age of 14 and consumed almost a pack of cigarettes a day (an average of 17 cigarettes) leads one to the assumption that at the age of 18–20 the state of their mental health is poor. It is well known that personalities with unstable state of mind have a higher tendency to delinquency and inappropriate behavior in general. Therefore, the prevention of delinquency has to be implemented together with the prevention of the offer of and demand for narcotic drugs and other psychotropic substances. Johnson et al. indicated two major causes of permanent smoking: nicotine dependence and poor education [7]. The results of this study confirm that less educated men and women use tobacco more. More educated inmates can cope better and in a more rational way with the stress of imprisonment.

Alcohol and narcotic drugs exert a strong impact on many metabolic pathways [8,9] in various species, and they are often abused by humans due to their psychological impact. Well-known narcologists [10] recognize alcohol use as a symptomatic attempt to solve emotional conflicts. It has already been proven that the course of psychic and behavioral disorders is influenced by the social and economic status of the individual. Education determines income, the possibility to lead a full-fledged life and to experience less stress. More educated people have more possibilities to get higher incomes. The majority of the inmates were young, the average age being 27 years, had basic or primary education, and before imprisonment did not have full-time jobs. Unemployment leads them to alcohol and drug abuse.

According to various studies, when drug use in a certain population reaches 10% it becomes a problem and a threat to the population's security [11]. Therefore, it can be claimed that the problem of drug use does exist in Lithuanian penal institutions and it represents a danger to the security

of our society. The problem of drug addiction in penal institutions receives more attention than the problem in the open society. According to the data of our study, the percentage of narcotic drug addicts among inmates was 13.8. It is interesting to note that almost the half of the respondents (48.7%) had tried drugs at least once in penal institutions. According to the data of our study, more than a half of the respondents (51.7%) who started to consume narcotic drugs in penal institutions used intravenous drugs. Imprisonment is a specific experience that requires drastic changes in the inmate's life and is regarded as psychologically damaging. Imprisonment produces a constant psychological stress that in the long run damages both physical and mental health.

The availability of drugs in penal institutions is a worldwide problem. Inmates get drugs from one another or by other ways that they do not want to disclose. Tobacco, alcohol, and narcotics are used as currency in penal institutions. More than a half (statistically significant) of the inmates that used drugs said that it was not difficult to get drugs in penal institutions.

Drug users said that the people around them or the living conditions were to blame for their addiction. The most common reason of drug use was the desire to distance themselves from problems (48.2% of drug-addicted inmates). The respondents enumerated various problems, but they were usually related to imprisonment and relationships with other inmates, the administration, and officers, which confirms the opinion found in related literature that the use of drugs in a penal institution is stimulated by the thought that psychotropic substances help to alleviate the difficulties related to imprisonment and isolation [12]. Some of the inmates mentioned the fear to go back to a free life because in the penal institution they feel socially secure. The help of a qualified psychologist and attention to the adaptation after imprisonment could help resist the temptation to use drugs.

The answers of the respondents helped to understand their relationships with their family members and friends as well as their psychological state. Specialists claim that one of the ways to fight such problems is finding the inner powers and the will to manage the problems without drugs or alcohol [10]. We could say that the majority of drug-addicted inmates have enough will and wish to live without drugs. They only lack only the incentive from outside, support by the society, some care from state institutions, and understanding by their family members and friends. A person's choices are determined by knowledge, attitude, intentions, and skills. The close interrelation of these factors, e.g. newly acquired knowledge, can change the attitude towards drugs and induce the user to stop using them. One of the main objectives of primary prevention is to form a positive attitude towards a healthy way of living and to train resistance to the use of psychotropic substances, social pressure such as the alcohol-abuse tradition, and the influence of advertising. The results of our study show that the inmates understood that smoking, alcohol, and drugs have a harmful influence on their health. Even drug users know that intravenous drugs are detrimental and cause incurable disorders. Having enough theoretical knowledge, the convicts do not get the help they need, they feel the negative atti-

tude of society, and disdain and other feelings that lead to negative emotions, although they are afraid to admit that they are unwanted and wasted.

Inmates form a part of society that is considered to be a high-risk group. Therefore, penal institutions must have educational programs based on the notion that a person who understands the risks of tobacco, alcohol, and narcotic drug use will form an anti-drug attitude and come to a rational and logical solution, i.e. stop using drugs, stop smoking, and use alcohol in moderation. Psychological help and social integration must enhance the motivation created by such programs. An inmate should want to go back to the society where he can receive social security without fear and addictions.

Where possible, drug use should be prevented, but when it occurs, and that seems to be the case in most prisons in Lithuania, irreversible damage to the drug user's health and to that of other inmates and their families should be minimized by the introduction of treatment programs and harm-reduction measures. Prisoners should not leave prison with more health problems than they had when they entered prison.

## CONCLUSIONS

Alcohol and narcotic drugs are often used due to their psychological impact. Imprisoned people constitute a high-risk group of psychotropic substances users and distributors. Consequently, the problem of psychotropic substances addiction in penal institutions awakens more concern

than the same problem in the open society. Intravenous drugs which stimulate dangerous behavior are prevalent in Lithuanian prisons.

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