



## Effects of social interactions on psychoactive substance use by medical students

### Efekti socijalne interakcije na zloupotrebu psihoaktivnih supstanci među studentima medicine

To the Editor:

Psychoactive substance (PS) use is a wide-spread problem causing economic losses, ecologic damage, population and moral decline which makes it a major threat to social stability and development as well as national health and well-being. Russia is currently facing a serious and dramatic problem associated with PS use by young people which is characterized by high prevalence showing a tendency to increase, a significant number of people at risk, and a growing rate of PS use by females that has never been seen before<sup>1</sup>.

Alcohol consumption by medical students remains a pressing issue affecting health, promoting risky sexual behavior, and impeding academic progress<sup>2-8</sup>. Higher education institutions often become environments that facilitate regular alcohol use and form a certain mode of behavior that leads to alcohol addiction<sup>9</sup>. Popular mentality and youth culture (including student culture) often form a strong social and psychological stereotype which either makes PS use an acceptable popular norm of behavior to be followed, or equates PS use to a normal aspect of everyday life, tradition or obligatory ritual<sup>10</sup>.

Compared to other educational institutions, medical schools are known for heavy study loads, increased stress levels, and specific psychological characteristics of students. Several researchers note three critical periods in higher education – during the first, third and fifth year<sup>11</sup>. These aspects along with other predisposing factors may lead to heavy drinking in some students potentially triggering addiction<sup>12,13</sup>.

Some researchers<sup>14-17</sup> divide risk factors for PS use by young people into external (geopolitical, demographic, as well as social environment factors) and internal (personal and behavioral) ones.

The role of social interactions of young people in developing a habit of PS use merits closer inspection due to the fact that environment (both family and academic) may affect biological and individual factors in different ways<sup>14,18-22</sup>.

We analyzed the results of 880 students who were asked to fill in a special questionnaire related to PS use.

The prevalence of smoking in students was  $28.4\% \pm 1.5\%$ . Smoking was more common in males ( $39.0\% \pm 2.9\%$ ) than females ( $23.4\% \pm 1.7\%$ ) ( $p < 0.01$ ).

Alcohol use within the last 6 months was reported by  $66.6\% \pm 1.6\%$  of respondents. About half of them (51.2%) consumed alcohol sporadically, less than a half (42.7%) several times a month, 5.8% several times a week and 0.3% reported daily use.

Wine and hard liquor were the most popular beverage types (24.6% and 20.9%, respectively) followed by champagne (17.8%), beer (16.0%), cocktails made of hard liquor (14.9%) and others.

Presented results indicate that  $6.0\% \pm 0.8\%$  of students used drugs. Drug use over the period of 6 months was more prevalent in males ( $10.6\% \pm 1.8\%$ ) than in females ( $3.8\% \pm 0.8\%$ ) ( $p < 0.01$ ). Marijuana and hashish were the most common drugs among medical students who used drugs with 78% reporting using these substances. Other PS types were much less common with tranquilizers, amphetamines, mushrooms and ecstasy used by 8.3%, 5.1%, 5.1% and 3.5% of respondents, respectively.

Among social interaction aspects influencing PS use by students, family environment is the first to draw attention. Living apart from parents was associated with a significantly higher prevalence of smoking and alcohol consumption in contrast to living with them ( $p < 0.01$ ). Apart from that, students living in dormitories reported higher rates of smoking and drinking than those living in a flat or a house (Table 1).

**Table 1**

**Smoking and alcohol consumption within the last 6 months in students living in different conditions**

Living conditions	Smoking	Drinking
Flat	$26.5 \pm 1.7$	$65.8 \pm 1.9$
Room in communal apartments	$28.2 \pm 7.2$	$64.1 \pm 7.7$
House	$22.8 \pm 5.6$	$52.6 \pm 6.6$
Dormitory	$39.2 \pm 4.1^*$	$76.2 \pm 3.6^{**}$

**Note: Results are given as mean  $\pm$  standard deviation in percentage of respondents.**

\* –  $p < 0.05$ ; \*\* –  $p < 0.01$ .

The results indicate that PS use can be reliably predicted by PS use in high school. However, there are certain changes in PS use patterns that are caused by changes in living conditions. Young people who continued living with their parents had the lowest level of alcohol and marijuana use compared to those who had other living conditions. The biggest changes were observed in respondents who left home. The authors suggest that higher PS use is associated with lack of parents' control<sup>23</sup>.

Married people consumed alcohol more frequently than single ones ( $p < 0.05$ ). This factor may be associated with financial aspects and certain individual risk factors. The results indicate that respondents who have to impose limits on some aspects of their lives due to financial problems (having to eat away from home, refrain from purchasing desired devices or appliances or skip on entertainment with friends) consumed alcohol 17% more frequently than their peers who faced no financial issues ( $p < 0.01$ ).

Students who had family members abusing PSs were more frequent smokers ( $p < 0.05$ ), drinkers ( $p < 0.01$ ) and drug users ( $p < 0.01$ ). Therefore, living in a family with no history of PS abuse may be considered a protective factor.

Difficulty in socialization and interaction with fellow students contributed to more frequent alcohol consumption. Among students who had healthy relationships with their group mates, the prevalence of alcohol consumption was 65.5%, and among students who failed to have rapport with their peers – 77.9% ( $p < 0.05$ ). Students who showed no in-

terest in socializing with group mates consumed alcohol 20% more frequently and used drugs 4 times more often than those who established good communication with peers ( $p < 0.01$ ). Communication problems with peers including fellow students were previously studied by other researchers<sup>24</sup>.

If student's self-esteem becomes too low, it may result in withdraw from the social group, stop attending classes and ignore social norms altogether as these factors are the reasons behind negative attitudes and critical feelings towards oneself. In that case, he/she starts to search a new social group which approves their deviant behavior. In cases such as this, PS use may become a means of improving self-esteem<sup>25</sup>.

Therefore, it can be concluded that only a multifaceted approach to PS use incorporating social aspects (educational and family in particular) will effectively decrease the influence of negative factors on medical students' health and lifestyle.

**Vladimir A. Reshetnikov\*, Artem R. Sergeev\*, Zoran Vesić†, Alla P. Golubeva\*, Sergey B. Bolevich\*, Aleksandar Jevtić‡, Maria S. Mikerova\***

**\*I.M. Sechenov First Moscow State Medical University, Moscow, Russian Federation; University of Belgrade, Faculty of Political Sciences, †Department for Social Policy and Social Work, Belgrade, Serbia; Military Medical Academy, ‡Clinic for Orthopedic Surgery, Belgrade, Serbia**

## R E F E R E N C E S

1. *Nefedovskaya LV*. Health aspects of young students. Moscow: Litterra; 2007.
2. *Golubeva AP, Kozlov VV, Sergeev AR*. Prediction of alcohol consumption by medical students. *Sibirskoye Meditsinskoye Obozrenie* 2015; 93(3): 83–8. (Russian)
3. *Igolnitsina LM, Novokshonova EA*. Aspects of Psychoactive Substance Use as a Risk Factor in Students of Various Education Institutions. *Vestnik Severo-Vostochnogo Federalnogo Universiteta im. M.K. Ammosova*. 2015; 1: 129–35. (Russian)
4. *Arria AM, Caldeira KM, Vincent KB, Garnier-Dykstra LM, O'Grady KE*. Substance-related traffic-risk behaviors among college students. *Drug Alcohol Depend*. 2011; 118(2–3): 306–12.
5. *Davoren MP, Demant J, Shiely F, Perry IJ*. Alcohol consumption among university students in Ireland and the United Kingdom from 2002 to 2014: a systematic review. *BMC Public Health* 2016; 16: 173.
6. *Kenna GA, Wood MD*. The prevalence of alcohol, cigarette and illicit drug use and problems among dentists. *J Am Dent Assoc* 2005; 136(7): 1023–32.
7. *Shah AA, Bazargan-Hejazji S, Lindstrom RW, Wolf KE*. Prevalence of at-risk drinking among a national sample of medical students. *Subst Abus* 2009; 30(2): 141–9.
8. *Thakore S, Ismail Z, Jarvis S, Payne E, Keetbaas S, Payne R, et al*. The perceptions and habits of alcohol consumption and smoking among Canadian medical students. *Acad Psychiatry* 2009; 33(3): 193–7.
9. *Vagner EF*. Fighting Alcohol and Drug Abuse in Adolescents. Moscow: Izdatelskiy Tsentr "Akademiya"; 2006.
10. *Shpakov AA, Kulak A, Kulak P*. Psychoactive Substance Use by Medical Students: Results of a Comparative International Study. *Здоровье и Окружающая Среда* 2011 ; 17: 64-70. (Russian)
11. *Elgarova LV*. Role of Preventive Strategies in Providing Healthcare for Students. *Медицина Труда и Промышленная Экология* 2007; 10: 17–23. (Russian)
12. *Golenkov AV, Andreeva AP*. Screening of Alcohol Abusing Medical Students. *Narkologiya* 2010; 2: 71–4. (Russian)
13. *McCambridge J, McAlaney J, Rowe R*. Adult consequences of late adolescent alcohol consumption: a systematic review of cohort studies. *PLoS Med* 2011; 8(2): e1000413.
14. *Kuzmenok GF*. Improving Strategies for Preventing Psychoactive Substance Use by Young Students. Moscow: State Institution of Physicians' post-graduate education of Ministry of Defence of Russia. 2010. (Russian)
15. *Sirota NA, Yaltonskiy VM*. Drug and Alcohol Abuse Prevention: Textbook for Higher Education Institutions. 5th ed. Izdatelskiy Tsentr "Akademiya". 2009. (Russian)
16. *Patrick ME, Schulenberg JE*. Prevalence and predictors of adolescent alcohol use and binge drinking in the United States. *Alcohol Res* 2013; 35(2): 193–200.
17. *Stock C, Mikolajczyk R, Bloomfield K, Maxwell AE, Ozgebe H, Petkeviciene J, et al*. Alcohol consumption and attitudes towards banning alcohol sales on campus among European university students. *Public Health* 2009; 123(2): 122–9.
18. *Kopytov AV*. Clinical and Social Aggression in Adolescents and Young Adults with Alcohol Addiction. *Narkologiya* 2012; 5: 57–62.

19. Dever BV, Schulenberg JE, Dworkin JB, O'Malley PM, Kloska DD, Bachman JG. Predicting risk-taking with and without substance use: the effects of parental monitoring, school bonding, and sports participation. *Prev Sci* 2012; 13(6): 605–15.
20. Dżielska A. Drinking motivates, depending on the use of tobacco and cannabis among adolescents. *Przegl Lek* 2014; 71(11): 592–6. (Polish)
21. Feinberg ME, Button TM, Neiderhiser JM, Reiss D, Hetherington EM. Parenting and adolescent antisocial behavior and depression: evidence of genotype x parenting environment interaction. *Arch Gen Psychiatry* 2007; 64(4): 457–65.
22. Szwala M. Alcohol and other psychoactive substances addiction risk assessment among chosen high school students test group. *Przegl Lek* 2014; 71(11): 620–3. (Polish)
23. Johnston LD, O'Malley PM, Miech RA, Bachman JG, Schulenberg JE. Monitoring the Future. National Survey Results on Drug Use: 1975-2014: Overview: Key Findings on Adolescent Drug Use. Ann Arbor (Michigan): Institute for Social Research, University of Michigan; 2014.
24. Bulygina IE. Communicative Functions of a Future Dentist. Proceedings of the Pedagogy and Psychology in Medical Institutions of Higher Education Conference; 24 April 2002; Cheboksary, Russia. 2002.
25. Bagulina VA. Forming negative attitudes towards drugs in engineering students. Kaliningrad: Immanuel Kant Baltic Federal University; 2010.

Received on March 21, 2020.

Accepted on April 24, 2020.

Online First April, 2020.