

\*Monika Grzelczyk-Wielgórska<sup>1,2</sup>, Teresa Jackowska<sup>1,2</sup>, Marcin Wojnar<sup>3</sup>, Bartosz Szulc<sup>2</sup>,  
Julita Wojnar<sup>3</sup>

## Using alcohol or other psychoactive substances, and the occurrence of risky behaviors in adolescents, based on own material\*\*

## Używanie alkoholu i innych substancji psychoaktywnych oraz zachowania ryzykowne u młodzieży na podstawie materiału własnego

<sup>1</sup>Department of Pediatrics, Medical Center for Postgraduate Education, Warsaw, Poland

Head of Department: prof. Teresa Jackowska, MD, PhD

<sup>2</sup>Clinical Department of Pediatrics, Bielanski Hospital, Warsaw, Poland

Head of Department: prof. Teresa Jackowska, MD, PhD

<sup>3</sup>Department of Psychiatry, Medical University of Warsaw, Poland

Head of Department: prof. Marcin Wojnar, MD, PhD

---

### Summary

**Introduction.** The latest worldwide research shows an increase in the consumption of alcohol and using psychoactive substances among adolescents. This problem also affects young adults in Poland.

**Aim of study.** (1) To evaluate the frequency and of factors which contribute to consuming alcohol or other psychoactive substances, and the occurrence of risky behaviors among adolescents aged 13-18 years. (2) To examine the factors affecting the consumption of psychoactive substances.

**Material and methods.** Adolescents aged 13-18 coming to the Emergency Room or hospitalized at the Pediatric Department in the years 2009-2010 were asked to fill in a questionnaire.

**Results.** The study included 125 patients: 52 (41.6%) boys and 73 (58.4%) girls. The average age of the respondents was 15.5 years. Out of the above group, 80 (63.7%) young people declared to have drunk alcohol. 62 (49.2%) of them smoke or have smoked cigarettes, and 22 (17.7%) smoke every day. 29 (23.4%) children have smoked marijuana in their lives. 9 (7.3%) have used cocaine, 4 (3.2%) have sniffed glue or other solvents, while 9 (7.3%) have used other drugs, such as LSD, amphetamines, ecstasy, etc.; 20 (16.3%) have used drugs sold at pharmacies without a prescription, without doctor's instructions; 9 (7.3%) declared to have used highs, and 39 (31.2%) respondents have had sexual intercourse.

**Conclusions.** Alcohol consumption and using psychoactive substances is a significant problem in the period of adolescence. Survey results indicate the absolute necessity of extending prophylaxis, speaking about the harmful effects of alcohol and psychoactive substances at schools and youth centers. The family and peer groups have a decisive impact on risk behaviors in children and adolescents.

---

Key words: alcohol, drugs, psychoactive substances

---

### Streszczenie

**Wstęp.** Z najnowszych badań prowadzonych na świecie wynika, że wzrasta rozpowszechnienie spożywania alkoholu i substancji psychoaktywnych wśród młodzieży. Problem ten dotyka również młodych dorosłych w Polsce.

**Cel pracy.** (1) Ocena częstości i uwarunkowań spożywania alkoholu i innych substancji psychoaktywnych oraz zachowań ryzykownych wśród młodzieży w wieku 13-18 lat. (2) Zbadanie czynników wpływających na spożywanie substancji psychoaktywnych.

**Materiał i metody.** Badaniem ankietowym objęto młodzież w wieku 13-18 lat zgłaszającą się do izby przyjęć lub przebywającą na oddziale z powodu różnych przyczyn, w latach 2009-2010.

---

\*\*Praca prowadzona była za zgodą Komisji Bioetycznej Centrum Medycznego Kształcenia Podyplomowego i finansowana w ramach projektu CMKP nr 501-1-1-19-41/09.

**Wyniki.** Do badania włączono 125 pacjentów: 52 (41,6%) chłopców i 73 (58,4%) dziewcząt. Średnia wieku badanych wynosiła 15,5 lat. Spośród badanej grupy dzieci 80 (63,7%) zadeklarowało, że piło alkohol. Paliło lub pali papierosy 62 (49,2%), z czego 22 (17,7%) pali codziennie. Paliło w swoim życiu marihuanę 29 (23,4%) dzieci. Dziewięcioro (7,3%) używało kokainy; czworo (3,2%) wachało klej lub inne rozpuszczalniki; 9 (7,3%) używało innych narkotyków tj. LSD, amfetamina, extasy itp.; 20 (16,3%) bez zaleceń lekarza zażywało leki sprzedawane w aptece bez recepty; 9 (7,3%) zadeklarowało zażywanie dopalaczy; 39 (31,2%) przebadanych nastolatków odbyło stosunek seksualny.

**Wnioski.** Spożywanie alkoholu i zażywanie substancji psychoaktywnych jest istotnym problemem w okresie dojrzewania. Wyniki ankiety wskazują na bezwzględne rozszerzenie profilaktyki w szkołach i ośrodkach dla młodzieży, mówiącej o szkodliwym działaniu alkoholu i substancji psychoaktywnych. Rodzina i grupa rówieśników ma decydujący wpływ na zachowania ryzykowne u dzieci i młodzieży.

Słowa kluczowe: alkohol, narkotyki, substancje psychoaktywne

## INTRODUCTION

Alcohol and psychoactive substance consumption is a serious problem among young people. Adolescence is a time when risky and inconsiderate decisions are common. It is also a time when various changes happen in a young person's life, e.g. a change of school and a change of the community, and these situations significantly increase the risk of drinking alcohol and taking other psychoactive substances bring about apparent sense of happiness and detachment from the problems (1).

The scale of this phenomenon is difficult to estimate, as not all young people who have drunk alcohol or taken other psychoactive substances admitted having done it, when asked.

**The aim of the study** performed at the Department of Pediatrics, Bielanski Hospital in Warsaw, was to evaluate the frequency and the determinants of drinking alcohol and using other psychoactive substances, and the occurrence of risky behaviors among adolescents aged 13-18 years. The research also aimed to indicate what factors influence the frequency of the consumption of psychoactive substances, and how often they become a cause of intoxication and hospitalization.

## MATERIAL AND METHODS

**Young people 13-18 years old admitted at the Emergency Room or hospitalized at the Clinical Department of Pediatrics**, Bielanski Hospital in Warsaw for various reasons (infections, allergic reactions, headaches, stomachaches, psychoactive substance intoxications, planned diagnostics) were included in the study. The inclusion criterion was getting a written agreement to participate in the study from the parents and the child (up 16 years old). The exclusion criteria were: severe injury requiring an immediate treatment, a traumatic psychic condition (attempted suicide, suspicion of sexual abuse), need of hospitalization at the Psychiatric Ward and a lack of possibility of getting a written consent from the caregivers or child (handicapped persons).

Patients and their parents were informed about the aim and course of the study and that their participa-

tion had no impact on the progress of the treatment. The agreement was confidential, and it was collected and stored separately, independently of the questionnaire so that the study would remain anonymous.

The questionnaire was anonymous, and the participants threw the filled form into a specially prepared, closed box. It contained questions concerning demographic data, the participant's physical and mental health, alcohol, psychoactive substance use, other risky behaviors, existing injuries and health status, social and school activities of the participant interviewed, parental care and parental abuse of alcohol or psychoactive substances.

The questions were taken and translated from surveys used worldwide. Such tools are widely available in the literature and do not require additional permission of the authors to use them.

### **Processing of the results based on the multivariate logit model.**

#### **1. The following variables were taken into account:**

- the dependent variables
- drinking alcohol
- smoking
- smoking marijuana
- sniffing glue and/or solvents
- use of cocaine
- use of drugs such as LSD, PCP, hallucinogenic mushrooms, amphetamine, methamphetamine, heroin, extasy and others
- use of OTC medicines with potentially psychoactive effects: dextromethorphan (Acodin, Tussal), metylomorfin (Codeine), Tramadol, Paracetamol, ephedrine (Tussipect) and other
- use of highs/designer drugs

#### **2. Independent variables:**

- socioeconomic status of the family (use of welfare depressed mood)
- suicidal thoughts and attempts
- participation in religious ceremonies
- participation in extracurricular activities at school (cheerleading, student council)
- participation in activities outside of school (clubs,

circles of interest, scouting, sports, dance classes, etc.),

- drinking alcohol by friends
- parents' interest in the life of the child, and clearly set rules within the family,
- alcohol consumption, smoking and drug use by parents
- repeating a class

**RESULTS**

The study included 125 children and adolescents: 52 (41.6%) boys and 73 (58.4%) girls, aged 13-18 years (average 15.5 years). 80 (63.7%) children out of the total said they had drunk alcohol.

To the question:

**1. How often have you been drinking alcohol in the last 12 months?**

16 people (12.9%) responded that at least once a week, while 45 (36.3%) had never consumed alcohol in the last year. Detailed responses are shown in figure 1.

In order to determine the amount of alcohol drunk at one time, 1 drink was defined as a standard portion of: 200 g of beer, 10% – wine 100 g, 25 g of 40% vodka.

Forty (46%) people declared to have drunk at once 1-2 drinks, 15 (17.2%) 3-4 drinks, 12 (13.8%) 5-6 drinks, 6 (6.9%) of them drank 7-9 drinks, and as many as 14 young people (16.1%) had 10 or more drinks (fig. 2). Five or more drinks (the amount sufficient for an intoxication), had been drunk at once by 27.6% of the children. Fifty (40.6%) people said they had drunk that alcohol to relax, improve their mood or fit into the company. As many as 21 (17.1%) young people drank alcohol alone, and 28 (23.1%) did not remember what happened after drinking the alcohol.

The multivariate logit model was used to identify the factors that contribute to reaching for alcohol. Indeed, young people whose friends and acquaintances drank and who declared in the questionnaire a depressed mood and less psychological comfort, drank statistically significantly more frequently. And in turn, the respondents who turned to alcohol significantly less frequently

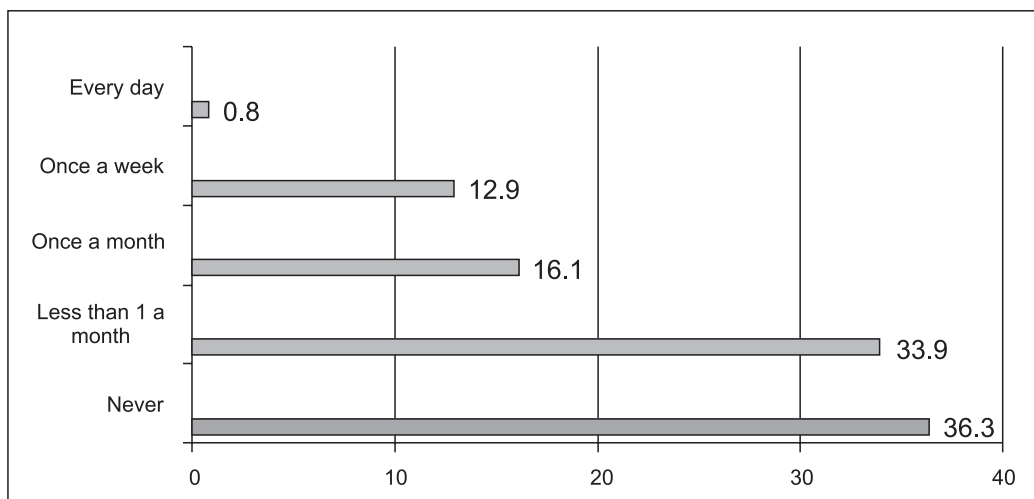


Fig. 1. Frequency of drinking alcohol in the last 12 months.

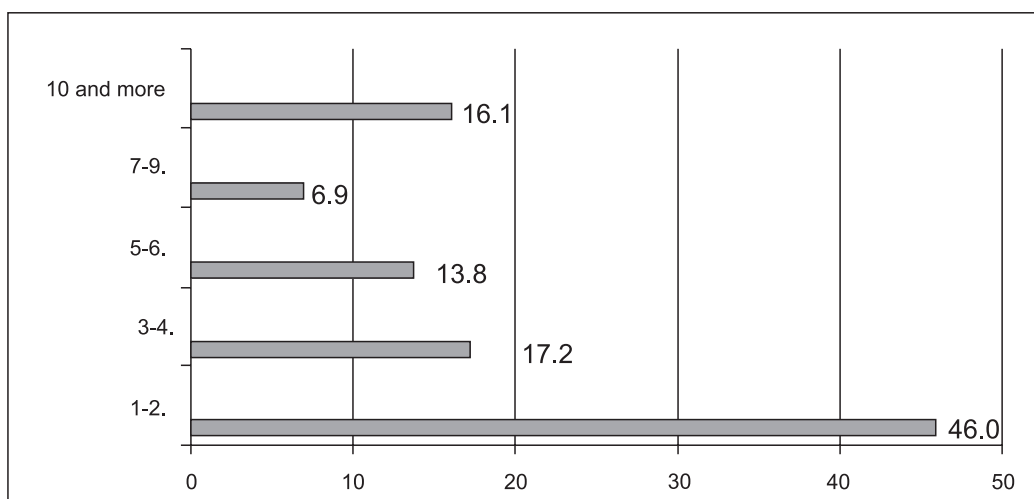


Fig. 2. Number of drinks drunk at once during the incident that brought them to hospital.

were those whose parents were more interested in their lives and leisure activities (asked with whom and where they were going, when they would be back, about their homework) and in families where the rules were clearly defined. Other factors, such as the family's socioeconomic status, suicidal thoughts and attempts, participation in religious ceremonies, active participation in extracurricular activities at school and outside school, parental addictions or repeating the class had no statistically significant effect on the frequency of drinking alcohol.

Other risky behaviours included in the questionnaire were:

**2. Do you smoke?**

22 (17.7%) respondents admitted that they smoked cigarettes every day, while 63 (50.8%) had never smoked. The rest smoked occasionally, with varying frequencies (fig. 3). Young people taking an active part in extracurricular activities outside their school (dance classes, scouting, clubs, etc), as well as those who repeated the class at school, and whose colleagues and friends drank alcohol – smoked cigarettes more often.

However, those who participating in extracurricular activities within their school (circles of interest, meetings, sports activities) smoked less frequently. Other factors listed as the independent variables had no significant effect on the occurrence of smoking.

**3. Do you smoke marijuana?**

The respondents smoked marijuana less frequently than cigarettes. 95 (76.6%) young people had never smoked marijuana, the remaining 29 (23.4%) had contact with it with different frequency, including three (2.4%) of them who smoked marijuana every day (fig. 4). Young people from families with a lower socioeconomic status, benefiting from social assistance, as well as those who repeated the class and whose friends drank alcohol, smoked marijuana more often. Other independent variables taken into account were not statistically significant in affecting the incidence of smoking marijuana.

**4. Do you use cocaine, highs, drugs with a psychoactive effect?**

7.3% respondents admitted having used cocaine with different frequency (fig. 5), 7.3% have also used other drugs,

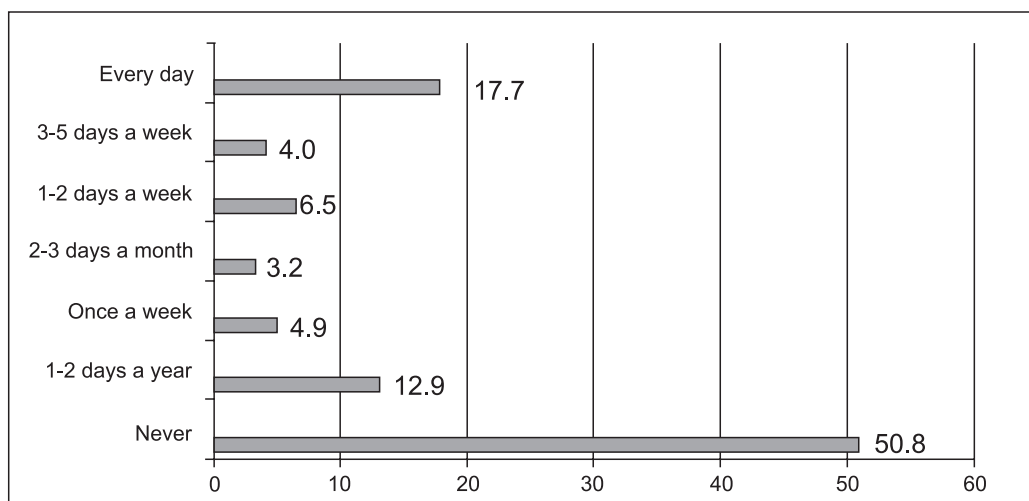


Fig. 3. Frequency of smoking cigarettes.

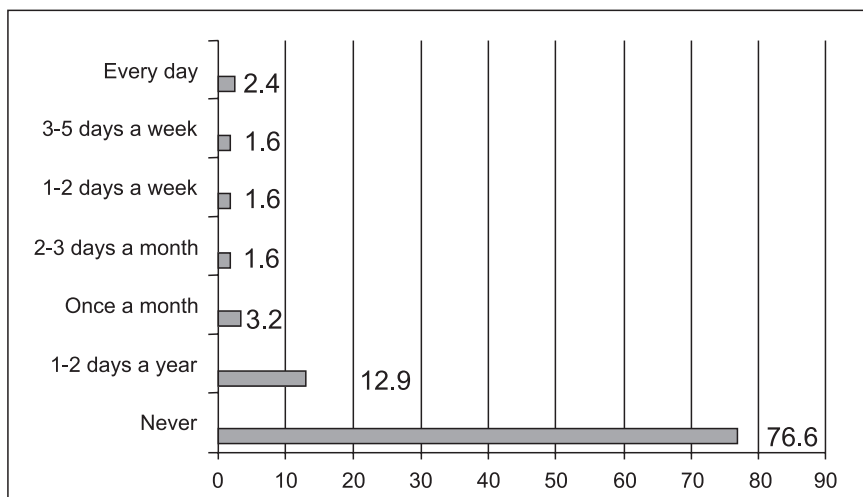


Fig. 4. Frequency of smoking marijuana.

such as LSD, ecstasy, amphetamine or methamphetamine (fig. 6). 3.2% respondents sniffed glues and solvents.

The use of highs/designer drugs with varying frequency was confirmed by 7.3% respondents (fig. 7).

Young people reached for medicines with a psychoac-

tive effect sold without prescription (e.g. Acodin, Actifed, Tussipect, Codeine and other) more often (16.3%) than for drugs and highs. Twelve (9.8%) of children use OTC drugs once a month, one (0.8%) 2-3 days a month, three (2.4%) 1-2 days a week, while two (1.6%) every day (fig. 8).

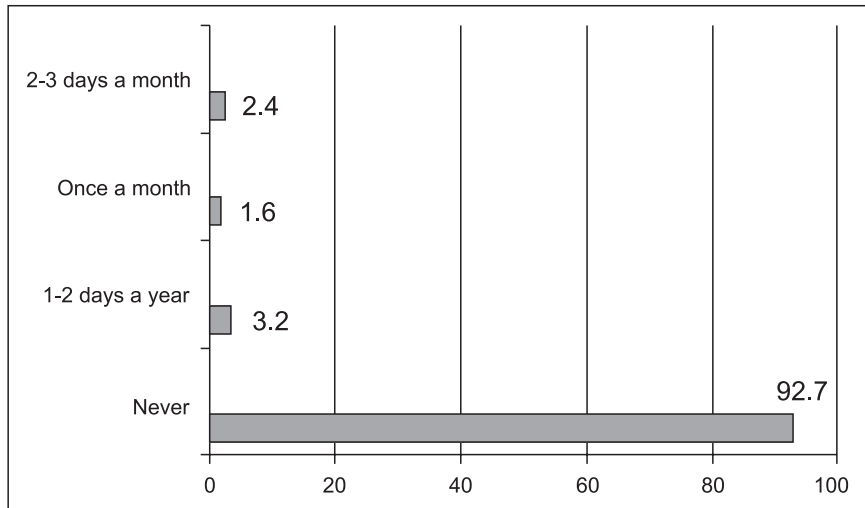


Fig. 5. Frequency of using cocaine.

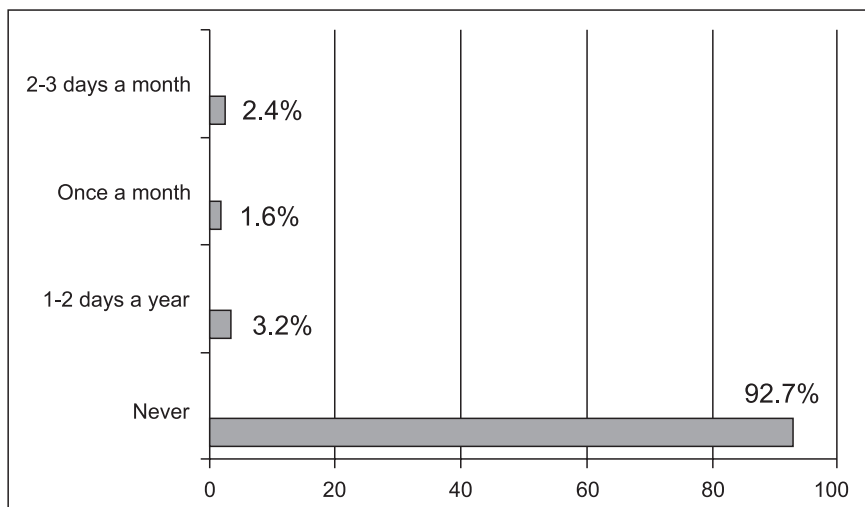


Fig. 6. Frequency of using LSD, methamphetamine, amphetamines, ecstasy, phencyclidine (PCP), heroin and other drugs.

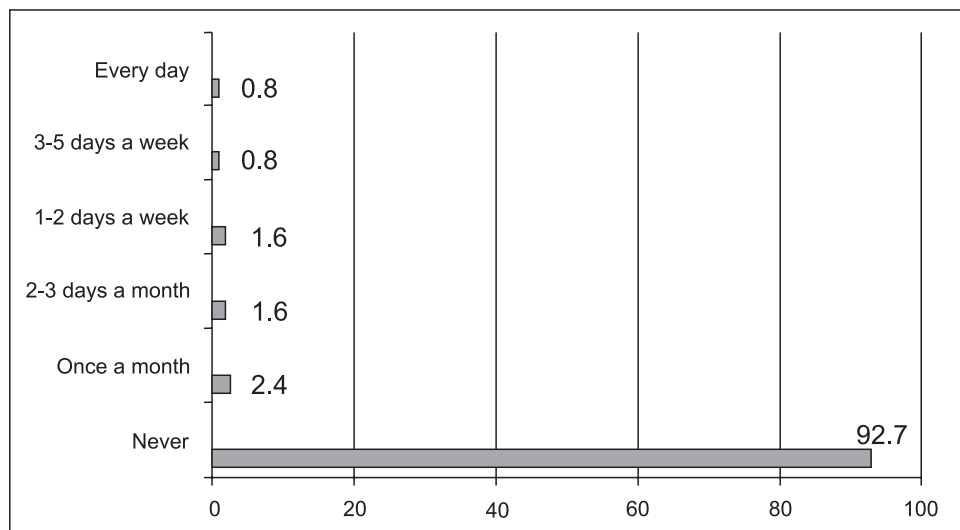


Fig. 7. Frequency of using designer drugs.

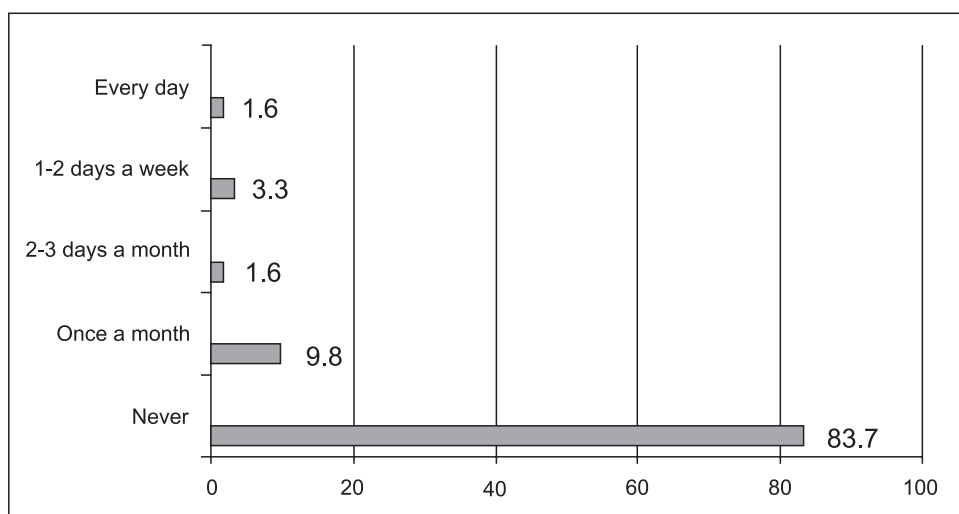


Fig. 8. Frequency of using OTC medication.

These drugs were statistically more frequently used by youth who repeated the class, and was less active in extracurricular activities at school. Other factors had no significant effect on the use of medicines available without prescription.

**5. Do you have sex?**

39 (31.2%) children and adolescents (aged 13-18) confirmed having had sexual intercourse. „Yes” answered 33% of the girls (average age 16.5) and 29% of the boys (average age 15.8). However, it should be noted that this is the age of filling the form, not of sexual initiation.

**DISCUSSION**

Poland is one of the participants in the *European School Survey Project on Alcohol and Drugs (ESPAD)*, where adolescents are asked about the use of alcohol and other psychoactive substances. The survey is conducted every four years. The last data are available from year 2007. This mass study program is realised at schools and includes two age groups: 15-16 years old and 17-18 years old (2). The study concerns basic information on alcohol consumption and psychoactive substance use among young people in Poland. However, it does not include adolescents below 15, some of whom have also had this kind of experience. As a survey which takes place at school, it may be underestimated due to the fear of the loss of anonymity and the fear of the influence of its results on the student's grades or teacher-student relations, etc.

The objectives of our study corresponded to those of ESPAD. The advantage of our study is an inclusion of children and adolescents aged 13-18, that is, less than 15 years old.

The age group was chosen to include two crucial moments of school change-entry to junior high school and later on to high school, because these changes can have an impact on the frequency of risky behaviors (1).

Adolescence is a critical moment for the initiation of alcohol drinking; the earlier alcohol drinking starts, the

higher the risk of subsequent drinking disorders, as studies show (3).

**The risk of various types of injuries and health problems related to alcohol drinking and psychoactive substance abuse makes the admission to an emergency room or ward a good opportunity to have access to the young abusers.**

To date there have been no screening studies conducted in such places with regard to alcohol use among young people. For comparison, studies in USA concerning adolescents and young adults admitted to emergency rooms reveal more frequent alcohol abuse and alcohol drinking disorders than in regular population studies. Young people admitted to emergency rooms more often admit drinking alcohol, using of illegal psychoactive substances, worse health condition and mental problems. Studies on the American population indicate that 59% of emergency room admissions of youth aged 14-17 and 38% aged 18-25 is directly related to alcohol (4).

Unfortunately, a comparison of our study results conducted at the emergency room and pediatric ward with the ESPAD population study results seems not possible and would be unreliable due to the different age groups and different methodological tools.

The ESPAD 2007 study shows that 78.9% students aged 15-16, and 92% students aged 17-18, have consumed alcohol at least once within the last 12 months, whereas in our study only 63.7% respondents confirmed contact with alcohol within the last year. The difference might be due to the broader age group in our study (13-15 years old).

Similar conclusions may be drawn with regard to smoking. In the ESPAD study 16.3% of the younger age group and 28.7% of the older one were addicted smokers. In our study it was 17.7%

Also, the percentage of respondents who have used marijuana and other drugs young users is lower than in the ESPAD study (respectively in ESPAD 15.7% persons in the younger age group and 27.9% in the older



one smoked marijuana. In our material it was 27.9% (children and adolescents).

An attempt to indicate the factors that influence the frequency of using alcohol and psychoactive substances has also been made. Among the independent variables only a few were statistically significant. These included: repeating a class at school and the amount of time spent among peers who drink alcohol. Young people who actively took part in after-school activities and whose parents were clearly interested in their lives and how they spend their spare time significantly less frequently turned to alcohol and psychoactive substances.

The protective influence of family is emphasized in the studies conducted by the National Bureau for Drug Prevention and The State Agency for the Prevention of Alcohol Related Problems (2). The results described above are partially in accord with the results from the study by Hawkins (5), where the main factors which protect from alcohol and psychoactive substances

consumption turned out to be: strong bonds with parents, interest in school, learning and self-development, regularity of religious practices and the liability to respect social rules.

The above results are of an initial nature due to the fact that the study is being continued. It is particularly interesting if our initial observations will be confirmed in a study on a larger group of children and adolescents. We are also of the opinion that a larger group of participants will increase the reliability of the obtained results.

## CONCLUSIONS

1. Alcohol and psychoactive substance abuse is a serious problem in the life of children and young adults.
2. Almost one third of adolescents begin their sexual initiation before their 15.5 year of life.
3. The family and the peer group have a significant and decisive influence on the risky behaviors of children and adolescents.

## BIBLIOGRAPHY

1. Bobrowski K: Używanie substancji psychoaktywnych i inne zachowania problemowe młodzieży gimnazjalnej. Zmiany pomiędzy 14. a 16. rokiem życia. *Alkoholizm i Narkomania* 2005; 18 (1-2): 27-38.
2. Sierosławski J: Używanie alkoholu i narkotyków przez młodzież szkolną. Raport z ogólnopolskich badań ankietowych zrealizowanych w 2007 roku. Europejski program badań ankietowych w szkole ESPAD. <http://www.parpa.pl/download/Raport%20ESPAD%202007%20Polska1.pdf>
3. Wells JE, Horwood LJ, Fergusson DM: Drinking patterns in mid-

adolescence and psychosocial outcomes in late adolescence and early adulthood. *Addiction* 2004; 99 (12): 529-41.

4. Elder RW, Shults RA, Swahn MH et al.: Alcohol-related emergency department visits among people aged 13 to 25 years. *J Stud Alcohol* 2004; 65 (3): 297-300.
5. Hawkins JD, Catalano RF, Miller JY: Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. *Psychological Bulletin* 1992; 112 (1): 64-105.

otrzymano/received: 05.10.2011  
zaakceptowano/accepted: 10.11.2011

Adres/address:  
\*Monika Grzelczyk-Wielgórska  
Klinika Pediatrii  
Centrum Medyczne Kształcenia Podyplomowego  
ul. Marymoncka 99/103, 01-813 Warszawa  
tel.: (22) 864-11-67  
e-mail: mgrzel@yahoo.com