Annals of Agricultural and Environmental Medicine 2014, Vol 21, No 4, 776–782
www.aaem.pl

ORIGINAL ARTICLE

Psychoactive substances use experience and addiction or risk of addiction among by Polish adolescents living in rural and urban areas

Beata Pawłowska[1], Maciej Zygo[2], Emilia Potembska[3], Lucyna Kapka-Skrzypczak[4,5], Piotr Dreher[6], Zbigniew Kędzierski[7]

[1] *Department of Psychiatry, Medical University in Lublin, Poland*
[2] *Prof. Mieczysław Kaczyński Neuropsychiatric Hospital in Lublin, Independent Public Healthcare Establishment, Poland*
[3] *Department of Psychiatry, University Hospital no 1 in Lublin, Poland*
[4] *Department of Molecular Biology and Translational Research, Institute of Rural Health, Lublin, Poland*
[5] *Department of Medical Biology and Translational Research, Faculty of Medicine, University of Information Technology and Management, Rzeszow, Poland*
[6] *Public Health Chair and Department, Medical University in Lublin, Poland*
[7] *Military University Hospital no 1 in Lublin with the Outpatient Department Independent Public Healthcare Establishment, Poland*

Pawłowska B, Zygo M, Potembska E, Kapka-Skrzypczak L, Dreher P, Kędzierski Z. Psychoactive substances use experience and addiction or risk of addiction among by Polish adolescents living in rural and urban areas. Ann Agric Environ Med. 2014; 21(4): 776–782. doi: 10.5604/12321966.1129932

Abstract

The objective of the study was to determine the similarities and differences between adolescents with psychoactive substances use experience living in urban and rural areas as regards the intensity of Internet addiction symptoms as well as the evaluation of prevalence of psychoactive substances use among adolescents depending on the place of residence. The examined group consisted of 1 860 people (1 320 girls and 540 boys) their average age being 17 years. In the study the following research methods were used: the Sociodemographic Questionnaire designed by the authors, the Internet Addiction Questionnaire by Potembska, the Internet Addiction test by Young, the Internet Addiction Questionnaire (KBUI) designed by Pawłowska and Potembska. Statistically significant differences were found as regards the prevalence of psychoactive substances use by the adolescents living in urban and rural areas and as regards the intensity of Internet addiction symptoms in adolescents, both from the urban and rural areas, who use and do not use illegal drugs. Significantly more adolescents living in urban areas as compared to their peers living in rural areas use psychoactive substances, mainly marihuana. The adolescents who use psychoactive substances, as compared to the adolescents with no experience using illegal drugs, living both in urban and rural areas significantly more often play online violent games and use web pornography. The adolescents living in rural areas who use psychoactive substances significantly more often as compared to the adolescents who do not use these substances claim that it is only thanks to the interactions established on the Internet that they can get acceptance, understanding and appreciation.

Key words

internet addiction, psychoactive substances, adolescents

INTRODUCTION

The destructive behaviours among adolescents including underage alcohol consumption, use of psychoactive substances and in recent years Internet addiction and the risk of developing this addiction constitute a major social problem.

The problem of illegal drugs use by Polish adolescents was assessed in 2011 in the European School Survey Project on Alcohol and Other Drugs (ESPAD) carried out by the National Bureau for Drug Prevention and the State Agency for Solving Alcohol Related Problems (PARPA) [1]. The research covered a group of 5 316 students in the third grade of junior high schools and (aged 15–16 years) and in the second grade of high schools (aged 17–18 years). The ESPAD results indicate that marijuana and cannabis were used by 24.3% of junior high school students and 37.3% of high school students, amphetamine – 4.6% of adolescents aged 15–16 years and 8.3% of respondents aged 17–18 years and smart drugs – 10% of junior high school students and 15.8% of high school students [1]. 15.5% of junior high school students and 16.8% of high school students informed about using sleeping pills without prescription [1]. 20.1% of junior high school students and 28.6% of high school students admitted having used marijuana over the last 12 months [1]. According to the data obtained from the Institute of Psychiatry and Neurology 12 982 individuals were admitted to residential treatment due to drug addiction in 2009 [1].

According to researchers [2, 3, 4] psychoactive substances are significantly more often used by the adolescents showing pathological Internet use as compared to the people who are not at risk of this addiction. Potembska and Pawłowska [5] inform about the co-existence of Internet addiction in boys with the use of marijuana. Pawłowska et al. [6] based on the research formulated the conclusions that the adolescents at risk of Internet addiction in difficult situations more often use psychoactive substances as compared to the individuals not at risk of developing this addiction.

Address for correspondence: Beata Pawłowska, Department of Psychiatry, Medical University in Lublin, Głuska 1 (SPSK Nr 1); 20-439 Lublin, Poland
E-mail: pawlowskabeata@tlen.pl

Received: 01 July 2013; accepted: 23 July 2013

The researchers dealing with Internet addiction [7, 8, 9, 10] are of the opinion that illicit drugs are often used by adolescents while playing online games. Ream et al. [7, 8] inform that 11% of individuals playing online games use marijuana, 11% painkillers, whereas 4% use sedatives. Walther et al. [11] claim that playing online games is connected with using cannabinols. Fisoun et al. [12] showed that significantly more adolescents using illicit drugs, as compared to those who do not take drugs, browse web pornography sites. According to Sun et al. [13], using psychoactive substances is accompanied by the addiction to social interactions on the Internet; chat rooms and emails.

The objective of the study was to determine the differences and similarities between the adolescents living in urban and rural areas who use psychoactive substances and those who do not use them, as regards the intensity of Internet addiction symptoms and online activity as well as the assessment of prevalence of use of psychoactive substances among the adolescents depending on their place of residence.

Based on subject literature the following research problems were formulated.

1. Do the adolescents living in urban and rural areas who use psychoactive substances differ from the adolescents who do not use these substances as regards the intensity of Internet addiction symptoms and types of online activity?
2. Do the adolescents living in urban areas differ from their peers living in rural areas as regards the prevalence of use of psychoactive substances?
3. What kind of differences, if any, occur between the adolescents living in urban and rural areas who use psychoactive substances as regards the intensity of Internet addiction symptoms and online activity?

THE EXAMINED GROUP AND METHODS

Prior to conducting the research the consent was obtained from the Bioethics Committee at the Medical University of Lublin (number KE-0254/94/2012). The research was conducted in 2012 and it involved students attending junior high schools and high schools located in the city of Lublin after obtaining the approval from their principals. The Students completed questionnaires voluntarily and were informed about the anonymity of the results as well as their scientific character. The questionnaires were completed by 2340 students in total. After rejecting incomplete questionnaires, the examined group comprised 1860 respondents (1320 girls and 540 boys) their average age being 17 years (the youngest respondent was 13 and the oldest 19). Out of the examined group 108 respondents attended junior high schools and 1786 – high schools. 760 students lived in Lublin, whereas 1100 students inhabited rural areas in Lublin area. It should be noted that the girls completed the questionnaires more willingly as compared to the boys, moreover they more often provided fully completed questionnaires.

In the study the following research methods were used:

- Sociodemographic Questionnaire based on which the following variables were determined: gender, age, place of residence, level of education, parents' education, family structure of respondents as well as psychoactive agents used by them.
- Internet Addiction Questionnaire designed by Potembska based on which the following were determined: which web pages are used by the respondents, do they establish contacts with unknown people via the Internet, do they browse Internet pornography and how often does it occur, do the respondents play online games and what are these games as well as what kind of personal details do the make available to other Internet users [14].
- Internet Addiction Test (IAT) consists of 20 items designed by Young [15]. The individuals falling within the range of 20–39 points are considered as not being at risk of Internet addiction, the respondents who are at risk of developing Internet addiction get 40–69 points, the score from 70 to 100 points denotes Internet addiction.
- Internet Addiction Questionnaire [Kwestionariusz do Badania Uzależnienia od Internetu (KBUI)], designed by Pawłowska and Potembska [14] consists of 50 questions making up 5 subscales (Acceptance, Games, Utility Function, Internet Addiction, Pornography) and one general scale [14].

RESULTS

During the first stage of the analyses, using the chi-square test, a comparison was made of the number of students living in the urban and rural areas using psychoactive agents (Tab. 1). In the statistical analyses the gender division of respondents was taken into account.

Table 1. Comparison of the number of students living in urban and rural areas using psychoactive substances

Data from the Questionnaire	Urban areas		Rural areas		χ^2	p
	N	%	N	%		
Entire group						
Use of psychoactive substances	142	23.39	136	16.02	12.46	0.001
Marijuana	133	21.70	128	14.95	11.12	0.001
Amphetamine	10	1.63	17	1.99	0.25	ns
LSD	5	0.82	13	1.52	1.46	ns
Smart drugs	12	1.96	14	1.64	0.21	ns
Girls						
Use of psychoactive substances	85	19.81	72	11.94	12.05	0.001
Marijuana	80	18.43	67	11.06	11.34	0.001
Amphetamine	8	1.84	9	1.49	0.20	ns
LSD	4	0.92	6	0.99	0.01	ns
Smart drugs	7	1.61	7	1.61	0.40	ns
Boys						
Use of psychoactive substances	49	35.77	51	27.42	2.57	ns
Marijuana	46	33.33	49	26.06	2.04	ns
Amphetamine	0	0.00	5	2.66	2.17	ns
LSD	1	0.72	7	3.72	2.99	ns
Smart drugs	5	3.62	7	3.72	0.01	ns

The results obtained during the test indicate that significantly more adolescents living in urban areas as compared to their peers living in rural areas use psychoactive substances, mainly marijuana. About 1% of adolescents living both in urban and rural areas inform about using amphetamine, LSD and smart drugs. Significantly more girls living in urban areas as compared to their peers living in rural areas use psychoactive substances, mainly marijuana. The

results obtained during the study show the lack of statistically significant differences as regards the number of boys living in urban and rural areas using psychoactive substances. Slightly more boys living in urban areas (circa 33%) as compared to those living in rural areas (26%) smoke marijuana.

In the following stage of research an analysis was made of the coexistence of Internet addiction and the risk of developing this addiction with the use of psychoactive substances by adolescents. For this purpose out of 278 respondents using psychoactive substances the following groups were singled out: 4 people meeting according to Young the criteria of Internet addiction, 51 students being at risk of Internet addiction and 81 students who were not at risk of this addiction. Afterwards, these groups were compared in terms of the place of residence (Tab. 2).

Table 2. Comparison of the number of students living in urban and rural areas using psychoactive substances, meeting the criteria of Internet addiction and the risk of developing this addiction as well as those who are not at risk of developing this addiction

Individuals	Urban areas		Rural areas	
	N	%	N	%
Addicted	2	2.63	2	3.33
At risk of addiction	27	35.53	24	40.00
Not at risk of addiction	47	61.84	34	56.67

The results obtained show that more students from rural areas as compared to those from urban areas use psychoactive substances and at the same time meet the criteria of Internet addiction and the risk of this addiction. It should be stressed that the obtained differences are not statistically significant (chi-square = 0.38; df=2; p=ns).

Below the results of the t-Student test are presented, the test being used to compare the adolescents living in urban and rural areas (Tab. 3), who use and do not use psychoactive substances as regards the intensity of Internet addiction symptoms measured by the IAT by Young.

Table 3. Comparison of mean results obtained in the IAT general scale by the adolescents living in urban and rural areas who use psychoactive substances and those who do not use them

IAT overall result	Adolescents who do not use drugs		Adolescents who use drugs		t	p
	M	sd	M	sd		
Urban areas						
IAT sum- entire group	36.08	11.49	39.31	12.77	-2.83	0.01
IAT sum – girls	36.59	11.64	39.82	12.76	-2.24	0.03
IAT sum – boys	33.61	10.20	38.44	13.20	-2.18	0.03
Rural areas						
IAT sum- entire group	35.58	12.34	41.25	15.54	-3.93	0.001
IAT sum – girls	35.68	12.25	42.25	15.78	-3.33	0.001
IAT sum – boys	36.60	12.68	38.27	13.93	-0.76	ns

The results presented in Table 3 show that the adolescents who use psychoactive substances, living both in the urban and rural areas, are characterised by a statistically more significant intensity of Internet addiction symptoms measured by IAT. Analogically to the entire examined group, significant differences were found as regards the intensity of Internet addiction symptoms measured by the IAT between both the girls who use psychoactive substances and those who do not use them living both in the urban and rural areas and the boys living in urban areas. The boys living in rural areas who use psychoactive substances do not differ as regards the intensity of Internet addiction intensity from the boys who do not use drugs.

During the following stage of the study the t-Student test was used to compare the results obtained in the KBUI scales by the adolescents who use psychoactive substances and those who do not use them, living in urban areas and rural areas (Tab. 4).

Table 4. Comparison of mean results obtained in the KBUI scales by adolescents living in urban and rural areas who use psychoactive substances and those who do not use them

KBUI scales	Adolescents who do not use drugs		Adolescents who use drugs		t	p
	M	sd	M	sd		
Urban areas						
Acceptance	0.48	0.60	0.53	0.63	-0.73	ns
Games	0.47	0.76	0.83	1.09	-3.65	0.001
Computer addiction	2.20	0.70	2.36	0.67	-2.44	0.02
Internet addiction	0.65	0.59	0.90	0.75	-3.59	0.001
Pornography	0.16	0.32	0.51	0.71	-5.68	0.001
KBUI overall result	36.59	20.19	48.33	27.34	-4.72	0.001
Rural areas						
Acceptance	0.48	0.52	0.69	0.70	-3.27	0.001
Games	0.44	0.70	0.91	0.95	-5.52	0.001
Computer addiction	2.08	0.73	2.17	0.78	-1.37	ns
Internet addiction	0.57	0.54	0.98	0.82	-5.63	0.001
Pornography	0.16	0.34	0.62	0.81	-6.48	0.001
KBUI overall result	34.23	19.12	51.40	28.04	-6.79	0.001

The adolescents living in urban areas who use drugs achieved significantly higher statistically results as compared to the students who do not use psychoactive substances in the KBUI scales: the KBUI general scale as well as in the following scales- Games, Computer addiction, Internet addiction and Pornography. These results mean that adolescents living in urban areas who use psychoactive substances, as compared to those who do not use drugs, show intensified symptoms of Internet addiction measured by the KBUI, they more frequently play violent games, more often claim that "they like online games in which the enemies are killed" and that "they can choose the killing method, types of weapons", while playing games they can express their anger without any limitations, they play online games in order to release aggression, to experience a sense of power (control), to be the "most important"person, "the ruler of life and death" and inform that thanks to playing violent games "they are not afraid anything". The adolescents who take psychoactive substances, as compared to the adolescents who do not use such substances, significantly more often, visit web pornography sites due to the fact that the access to them is easy and cheap, can easily change a partner, more often visit Internet sex forums and chat rooms, get involved in sexual conversations online, download pornographic pictures and films, claim that only "virtual sex" gives a sense of safety. The adolescents who use psychoactive substances, as compared to their peers

who do not use drugs, significantly more often claim that the Internet lets them "keep unpleasant thoughts away", they download films, music files, use instant messaging, admit neglecting school, chores, lose sleep due to staying online and feel anxiety and anger when they cannot be online.

The adolescents living in rural areas who use drugs obtained statistically higher results as compared to their peers who do not use psychoactive agents in the KBUI scales: general KBUI scale and the following scales – Acceptance, Games, Internet addiction and Pornography. These results mean that the adolescents living in rural areas who use psychoactive drugs shows significantly more often as compared to their peers who do not use drugs intensified symptoms of Internet addiction measured by the KBUI which manifest themselves by: extending the time spent online, preoccupation with the Internet even if off-line, going without food and sleep for long in order to stay online, reacting with anger or fear when unable to stay online, neglecting school and chores to spend more time online, limiting "face-to face" social interactions in order to spend more time on the Internet and lying to parents as regards the amount of time spent online. The adolescents living in rural areas who use psychoactive drugs significantly more often, as compared to their peers who do not use these substances, use electronic mail, download films and music files, claim that it is only on the Internet that they can discuss issues important to them, staying online "allows them not to feel helpless", only the interlocutors encountered online can appreciate, understand them, they can find more interesting people online than in the real world and think that it is only on the Internet that they can "show their true selves".

The adolescents living in rural areas who use psychoactive substances significantly more often as compared to their peers who do not use drugs play violent computer games because while doing that they "are not afraid of anything", they can "express anger without any limitations", "they feel most important", they claim that they like computer games where they "kill enemies", they "can chose the type of weapon and inflict death", playing games "they feel the rulers of life and death" and experience a sense of power. The adolescents living in rural areas who use psychoactive substances, as compared to their peers who do not use this type of substances; use web pornography, conduct sexual conversations, download pornographic films and pictures, visit sex chat rooms and forums, think that web pornography gives them a possibility to change a partner easily, gives them a sense of safety as a person visiting web pornography sites does not have to be afraid of not coming up to somebody else's expectations; moreover the adolescents inform that they visit web pornography sites due to an easy and cheap access.

The results of the t-Student test presented below show a comparison of the girls living in urban and in rural areas (Tab. 5) who use psychoactive substances and those who do not use them in KBUI scales

The girls living in urban areas who use psychoactive substances obtained significantly higher results as compared to the girls who do not use these substances in the following KBUI scales: general scale as well as the following scales – Games, Internet addiction and Pornography, which means that the girls who use psychoactive substances significantly more often extend the time online, react with anger or fear if they cannot use the Internet, go without sleep to spend more time online, neglect school and chores due to the time spent online, more often use instant messaging and download music files and films. The girls living in urban areas who use psychoactive substances, as compared to the girls who do not use drugs, significantly more often claim that "while playing computer games they feel the rulers of life and death", "when they play violent games they are not afraid of anything". They also significantly more often visit web pornography sites "due to an easy and cheap access", engage in sexual conversations online, visit sex chat rooms and forums, download erotic pictures and films and express an opinion that web pornography gives them a sense of safety.

Table 5. Comparison of mean results obtained in KBUI scales by the girls living in urban and rural areas who use psychoactive substances and those who do not use them

KBUI scales	Girls who do not use drugs		Girls who use drugs		t	p
	M	sd	M	sd		
Urban areas						
Acceptance	0.48	0.60	0.47	0.59	0.15	ns
Games	0.32	0.65	0.54	0.87	-2.13	0.04
Computer addiction	2.23	0.68	2.35	0.65	-1.53	ns
Internet addiction	0.66	0.57	0.92	0.73	-3.04	0.003
Pornography	0.11	0.24	0.37	0.61	-3.85	0.001
KBUI overall result	34.88	18.67	43.59	23.20	-3.21	0.002
Rural areas						
Acceptance	0.47	0.51	0.62	0.61	-2.04	0.05
Games	0.25	0.49	0.43	0.61	-2.35	0.02
Computer addiction	2.13	0.71	2.22	0.75	-0.97	ns
Internet addiction	0.55	0.52	1.00	0.76	-4.87	0.001
Pornography	0.11	0.29	0.33	0.55	-3.33	0.001
KBUI overall result	31.90	17.19	43.58	21.47	-4.40	0.001

The girls living in rural areas who use psychoactive substances, as compared to the girls who do not use drugs, obtained the results which are significantly higher statistically in the following KBUI scales: general scale as well as Acceptance, Games, Internet addiction and Pornography. The girls living in rural areas who use psychoactive substances, as compared to their peers who do not use drugs, significantly more often react with anger or anxiety when unable to stay online, want to spend more time online and use the Internet more often, they are preoccupied with the Internet, go without sleep to spend more time online, neglect school, chores, social life due to the amount of time spent online, lie to the family as regards the amount of time spent online, they think that only the people encountered online understand them and claim that "it is only on the Internet that they can be authentic".

Moreover, the girls living in rural areas who use psychoactive substances, as compared to the girls who do not use drugs, significantly more often play violent games, inform that "they like computer games where they kill enemies", "while playing games they feel the rulers of life and death", thanks to the games they can release anger and they significantly more often visit web pornography pages, engage in sexual conversations online and visit sex chat rooms and forums, download erotic pictures and films and claim that by using web pornography they can change their partners more easily.

The results of the t-Student test presented in Table 6 below show a comparison of the boys living in urban and rural areas who use psychoactive substances and those who do not use them in KBUI scales.

Table 6. Comparison of mean results obtained in KBUI scales by the boys living in urban and rural areas who use psychoactive substances and those who do not use them

KBUI scales	Boys who do not use drugs		Boys who use drugs		t	p
	M	sd	M	sd		
Urban areas						
Acceptance	0.50	0.60	0.58	0.71	-0.64	ns
Games	1.05	0.87	1.43	1.24	-1.87	ns
Computer addiction	2.13	0.69	2.41	0.72	-2.20	0.03
Internet addiction	0.60	0.63	0.86	0.79	-2.09	0.04
Pornography	0.39	0.50	0.76	0.83	-2.87	0.01
KBUI overall result	43.69	24.05	57.27	32.50	-2.54	0.01
Rural areas						
Acceptance	0.57	0.57	0.66	0.67	-0.93	ns
Games	1.18	0.86	1.47	0.84	-2.06	0.04
Computer addiction	1.91	0.72	2.09	0.77	-1.46	ns
Internet addiction	0.69	0.58	0.85	0.70	-1.57	ns
Pornography	0.36	0.42	0.96	0.84	-4.83	0.001
KBUI overall result	44.54	22.65	57.74	24.90	-3.42	0.001

The boys living in urban areas who use psychoactive substances obtained significantly higher statistically results as compared to their peers who do not use drugs in the KBUI scales: the general scale, Computer addiction, Internet addiction and pornography scales.

These results show that the boys living in urban areas who use psychoactive drugs significantly more often, as compared to the boys who do not use such substances, spend more time online and more frequently than intended, react with aggression if unable to use the Internet, download films and music files, think that the Internet helps them to push unpleasant thoughts away, use web pornography, engage in sexual conversations online, inform that they visit web pornography sites because the access to them is cheap ad easy and claim that using web pornography enables them to change a partner easily.

The boys who live in rural areas who use psychoactive substances obtained statistically significantly higher results as compared to the boys who do not use drugs in the KBUI scales: generals scale, Games and Pornography, which means that they significantly more frequently express the opinion that in it only on the Internet that "they can show what they really are", they play violent computer games, they inform that "playing online games they feel the rulers of life and death", they like computer games where they "kill enemies", they more often use web pornography, engage in sexual conversations, download pornographic pictures and films, visit sex chat rooms and forums, inform that while using web pornography they feel safe, they do not have to be afraid that they will not come up other people's expectations and declare that they visit web pornography sites because the access to them is cheap an easy.

The final stage of the research involved a comparison of adolescents living in the rural and urban areas who use psychoactive substances in terms of the Internet addiction symptoms intensity measured by the IAT (Tab. 7) and the KBUI (Tab. 8).

As regards the intensity of Internet addiction symptoms measured both by the IAT test and by the KBUI general scale

Table 7. Comparison of mean results achieved in the IAT general scale by the adolescents living in the urban and rural areas who use psychoactive substances

IAT	Urban areas		Rural areas		t	p
	M	sd	M	sd		
IAT overall result	39.31	12.77	41.25	15.54	-1.12	ns
IAT overall result – girls	39.82	12.76	42.25	15.78	-1.05	ns
IAT overall result – boys	38.44	13.20	38.27	13.93	0.06	ns

Table 8. Comparison of mean results achieved in the KBUI scales by the adolescents living in the urban and rural areas who use psychoactive substances

KBUI scales	Urban areas		Rural areas		t	p
	M	sd	M	sd		
Entire group						
Acceptance	0.53	0.63	0.69	0.70	-2.01	0.05
Games – aggression and control	0.83	1.09	0.91	0.95	-0.68	ns
Computer addiction	2.36	0.67	2.17	0.78	2.18	0.03
Internet addiction	0.90	0.75	0.98	0.82	-0.87	ns
Pornography	0.51	0.71	0.62	0.81	-1.25	ns
KBUI overall result	48.33	27.34	51.40	28.04	-0.92	ns
Girls						
Acceptance	0.47	0.59	0.62	0.61	-1.55	ns
Games	0.54	0.87	0.43	0.61	0.87	ns
Computer addiction	2.35	0.65	2.22	0.75	1.16	ns
Internet addiction	0.92	0.73	1.00	0.76	-0.65	ns
Pornography	0.37	0.61	0.33	0.55	0.37	ns
KBUI overall result	43.59	23.20	43.58	21.47	0.00	ns
Boys						
Acceptance	0.58	0.71	0.66	0.67	-0.60	ns
Games	1.43	1.24	1.47	0.84	-0.19	ns
Computer addiction	2.41	0.72	2.09	0.77	2.10	0.04
Internet addiction	0.86	0.79	0.85	0.70	0.08	ns
Pornography	0.76	0.83	0.96	0.84	-1.14	ns
KBUI overall result	57.27	32.50	57.74	24.90	-0.08	ns

no statistically significant difference was found between the adolescents living the urban areas and their peers living in rural areas who use psychoactive substances. However, significant differences were found between the compared groups of adolescents in the KBUI scales: Acceptance and Computer addiction. These results show that the adolescents living in urban areas who use psychoactive substances as compared to their peers living in rural areas significantly more often use electronic mail and instant messaging services. The adolescents living in rural areas who use psychoactive substances, as compared to their peers living in urban areas, significantly more often feel appreciated and accepted thanks to online social interactions and think that it is only on the Internet that they can show their true feelings, they more often limit contact with their friends to spend more time online, lie to their parents as regards the amount of time spent online, they are more often preoccupied with the Internet while studying and meeting friends, they go without food to spend more time online, use "Nasza Klasa" online social networking service, download erotic pictures and films as use web pornography sites.

The data presented in Table 8 inform about the lack of statistically significant differences as regards the intensity of Internet addiction symptoms and the frequency of use of web pornography and playing violent computer games between the girls using psychoactive substances living in urban and rural areas. The boys living in urban areas who use psychoactive substances achieved a significantly statistically higher result as compared to their peers living in rural areas who use drugs in the KBUI scale – Computer addiction, which means that they significantly more frequently they use electronic mail, instant messaging services, download pictures and express the opinion that they are appreciated only by the interlocutors encountered online.

SUMMARY OF THE RESULTS AND DISCUSSION

The results obtained in the study show that significantly more adolescents living in urban areas, as compared to those living in rural areas, use psychoactive substances, mainly marijuana. The adolescents who use psychoactive substances living both in urban and rural areas are characterized by a greater intensity of Internet addiction measured by the IAT and by the KBUI general scale as compared to the adolescents who do not use these substances. Moreover, the adolescents living both in urban and rural areas who use drugs significantly more frequently, as compared to their peers who do not use drugs, play violent computer games satisfying that way their need for aggression, control, self-esteem, they visit web pornography sites due to the fact that the access to them is easy and cheap, they are anonymous, they do not have to take responsibility for their behaviour, they engage in sexual conversations online, download web pornography (pictures and films), due to the amount of time spent online they neglect school, chores, go without sleep, have problems at school and more often use electronic mail, download films and music files. Additionally, the adolescents living in rural areas who use psychoactive substances significantly more often, as compared to their peers who do not use these substances, are of the opinion that it is only during the social interactions online that they get acceptance, understanding, appreciation and become authentic.

The results obtained during the study correspond to the opinion of the researchers who pointed to the coexistence of Internet addiction symptoms, web pornography use and playing computer games with the use of psychoactive substances [2, 3, 4, 5, 6, 7, 8, 9, 20, 11, 12, 16, 17, 18, 19].

Moreover, the findings show that the adolescents living in urban areas who use psychoactive substances do not differ significantly from the adolescents living in rural areas as regards the intensity of Internet addiction symptoms measured both by the IAT by Young and the KBUI by Pawłowska and Potembska. It should be stressed though that the adolescents living in urban areas who use psychoactive substances, as compared to their peers living in rural areas who use drugs, significantly more often use electronic mail and instant messaging services, whereas the adolescents living in rural areas who use psychoactive substances significantly more frequently as compared to their peers living in urban areas, feel accepted, appreciated thanks to the interactions online, they think that it is only on the Internet that they can show their true feelings, they more often limit their social interactions with friends due to the time spent online, lie to their parents as regards the amount time spent online, they are more often preoccupied with the Internet while studying or meeting friends, go without food to spend more time online, use "Nasza Klasa" online social network service, download web pornography (pictures and films) and visit web pornography sites. The differences regarding the online activity named above occur in the entire group of adolescents and in the boys' group.

To sum up it should be stressed disregarding the place of residence, the use of psychoactive substances by adolescents is accompanied by other incorrect, destructive behaviours that can referred to as hazardous, such as: playing violent computer games, visiting web pornography sites or Internet addiction or the risk of developing this addiction. Therefore, attention should be paid to these incorrect behaviours both during the diagnostic process as well as the therapeutic one as regards the adolescents who use psychoactive substances.

CONCLUSIONS

1. Significantly more adolescents living in urban areas as compared to those living in rural areas use psychoactive substances, mainly marijuana.
2. The adolescents living both in urban and rural areas who use psychoactive substances, as compared to the adolescents who do not use these substance, show more intensified symptoms of Internet addiction.
3. The adolescents living in rural and urban areas who use psychoactive substances, as compared to their peers who do not use drugs, significantly more often play violent computer games and use web pornography.
4. The adolescents living in rural areas who use psychoactive substances significantly more often as compared to their peers who do not use these substances express the opinion that it is only during the interactions with other Internet users that they can get understanding and appreciation.

REFERENCES

1. ESPAD. Europejski program badań ankietowych w szkołach. Używanie alkoholu i narkotyków przez młodzież szkolną. Raport z ogólnopolskich badań ankietowych zrealizowanych w 2011r. Instytut Psychiatrii i Neurologii, 2011 (in Polish).
2. Ko CH, Yen JY, Chen CC, Chen SH, Wu K, Yen CF. Tridimensional personality of adolescents with internet addiction and substance use experience. Can J Psychiatry. 2006; 51(14): 887–894.
3. Frangos CC. Internet dependence in college students from Greece. Eur Psychiatry. 2009; 24(Suppl. 1): 419.
4. Frangos CC, Frangos CC, Sotiropoulos I. Problematic Internet Use among Greek university students: an ordinal logistic regression with risk factors of negative psychological beliefs, pornographic sites, and online games. Cyberpsychol Behav Soc Netw. 2011; 14(1–2): 51–58.
5. Potembska E, Pawłowska B. Zależności między uzależnieniem od Internetu a spożywaniem alkoholu i stosowaniem środków psychoaktywnych u uczniów gimnazjum i liceum. Psychiatr Pol. 2010; 44(3): 195 (in Polish).
6. Pawłowska B, Potembska E, Dworzański W. Internet Addiction and Coping with Stress in Secondary School Students. In: Janowski K, Steuden S (eds.). Biopsychosocial Aspects of Health and Disease. Gaudium Press, Lublin 2009.p.71–78.
7. Ream GL, Elliot LC, Dunlap E. Patterns of and Motivations for Concurent Use of Video Games and Substances. Int J Environ Res Public Health. 2011; 8(10): 3999–4012.
8. Ream GL, Elliot LC, Dunlap E. Playing Video Games while Using or Feeling the Effects of Substances: Associations with Substance Use Problem. Int J Environ Res Public Health. 2011; 8(10): 3979–3998.

9. Padilla-Walker LM, Nelson LJ, Carrol JS, Jensen AC. More Than a Just Game: Video Game and Internet Use During Adulthood. J Youth Adolesc. 2010; 39(2): 103–113.
10. Wenzel HG, Bakken IJ, Johansson A, Götestam KG, Øren A. Excessive Computer Game Playing Among Norwegian Adults: Self – Reported Consequences Of Playing And Association With Mental Health Problems. Psychol Rep. 2009; 105(3): 1237–1247.
11. Walther B, Morgenstern M, Hanewinkel R. Co-occurrence of Addictive Behaviors: Personality Factor Related to Substance Use, Gambling and Computer Gaming. Eur Addict Res. 2012; 18(4): 167–174.
12. Fisoun V, Floros G, Siomos K, Geroukalis D, Navridis K. Internet Addiction as an Important Predictor in Early Detection of Adolescent Drug Use Experience – Implications for Research and Practice. J Addict Med. 2012; 6(1): 77–84.
13. Sun P, Unger JB, Palmer PH, Gallaher P, Chou CP, Baezconde-Garbanati L, Sussman S, Johnson CA. Internet accessibility and usage among urban adolescents in Southern California: implications for web-based health research. Cyberpsychol Behav. 2005; 8(5): 441–453.
14. Pawłowska B, Potembska E. Właściwości psychometryczne Kwestionariusza do Badania Uzależnienia od Internetu (KBUI). Bad Schizofr. 2009; 10(10): 310–321 (in Polish).
15. Young KS. Caught in the net: How to recognize the signs of internet addiction – and a winning strategy for recovery. Wiley, New York 1998.
16. Biliński P, Hołownia P, Kapka-Skrzypczak L, Wojtyła A. Designer Drug (DD) abuse in Poland; a review of the psychoactive and toxic properties of substances found from seizures of illegal drug products and the legal consequences thereof. Part 1 – cannabinoids and cathinones. Ann Agric Environ Med. 2012;19(4):857–870.
17. Biliński P, Hołownia P, Kapka-Skrzypczak L, Wojtyła A. Designer Drug (DD) abuse in Poland; a review of the psychoactive and toxic properties of substances found from seizures of illegal drug products and the legal consequences thereof. Part II –piperazines/piperidines, phenylethylamines, tryptamines and miscellaneous 'others'. Ann Agric Environ Med. 2012;19(4):871–82.
18. Biliński P, Kapka-Skrzypczak L, Jabłoński P. Determining the scale of designer drugs (DD) abuse and risk to public health in Poland through an epidemiological study in adolescents. Ann Agric Environ Med. 2012;19(3):357–364.
19. Kapka-Skrzypczak L, Kulpa P, Sawicki K, Cyranka M, Wojtyła A, Kruszewski M. Legal highs – legal aspects and legislative solutions. Ann Agric Environ Med. 2011;18(2):304–309.