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*Drug use and eating disorder symptoms  
in secondary school students*

The number of people, who suffer from eating disorders is still growing. Forerunners of a present attitude to the etiology of eating disorders were Ernest Charles Lasegue and William Withey Gull from Guy's Hospital in London (12). They suggested the relationship between a person's psyche and his/her family situation. A report by Sheehan (1) drew attention to psychological and social and cultural conditions, family factors, and strong effect of adolescent growing problems (2). The eating disorders may be an indicator of risk for depression and risk-taking health behaviours like the use of alcohol and substances of abuse (11).

The people suffering from anorexia nervosa or bulimia nervosa develop several psychological and behavioral traits considered to be specific to such diseases. These traits are validated by Garner, Olmsted and Polivy (3, 4), to measure psychological characteristics associated with eating disorders. They prepared the Eating Disorder Inventory EDI, which became one of the most widely used self-report inventories in eating disorders.

The aim of the study was to establish the relationship between eating disorders and drug use in adolescents. Research questions: Is drug use common among secondary school students? Are there any significant correlations between the EDI scale and drug use in the group of adolescents?

#### MATERIAL AND METHODS

The examined group consisted of 1,694 secondary school students (1,058 girls and 636 boys), aged 16–21. The study was conducted from October 2004 to June 2005 in the Lublin district. A specially devised questionnaire was used to identify a frequency of drug use in adolescents. Respondents were asked to fill in the questionnaire anonymously. The tests were performed by a multi-dimensional Eating Disorder Inventory EDI. EDI contains 8 scales. Three of these scales: Drive for Thinness – DT, Bulimia – B and Body Dissatisfaction – BD are used for a quantitative description of behavioural and symptomatic models in anorexia and bulimia. Five of them: Ineffectiveness – I, Perfectionism – P, Interpersonal Distrust – ID, Interoceptive Awareness – IA and Maturity Fear – MF are employed in the quantitative evaluation of psychological constructs which are intrinsic in the formation of eating disorders.

For comparison purposes analyses were carried out separately for adolescents using drugs and those not using drugs. The Mann-Whitney U-test overall significant differences between the two groups on the EDI scales were found. Using the analysis of variance by Kruskal-Wallis the significance of difference of EDI value was studied in more groups classified according to the frequency of drug use. Data were analyzed using STATISTICA program. A p value lower than 0.05 was considered statistically significant.

## RESULTS

Out of 1,694 students, 1,294 (75.8%) have never used drugs, 294 (14.6%) reported to have used drugs but rarer than three times a month, 91 (5.3%) of secondary school students admitted to using drugs, but not more than once a month. Others (60 adolescents) reported to use drugs more often. The table presented below contains the results for the classification into four groups divided according to the frequency of drug use: never, rarer than three times a month, rarer than once a month, more often than once a month.

Table 1. Frequency of drug use in adolescents

Using drugs	Frequency	Percent
never	1,294	75.8
rarer than three times a month	249	14.6
rarer than once a month	91	5.3
more than once a month	60	3.5
Total	1,694	99.2

Using the analysis of variance by Kruskal-Wallis, the significance of difference of EDI value was studied in four groups classified according to the frequency of using drugs: never, rarer than 3 times a month, rarer than once a month, more often than once a month. All results were very significant. There are strong connections between the frequency of drug use and eating disorder symptoms.

Table 2. Frequency of drug use and eating disorder symptoms (Kruskal-Wallis Test)

	Drive for thinness (DT)	Bulimia (B)	Body dissatisfaction (BD)	Ineffectiveness (I)	Perfectionism (P)	Interpersonal distrust (ID)	Interoceptive awareness (IA)	Maturity fear (MF)
Chi-Square	16.59	34.16	17.01	17.06	11.35	21.57	14.91	9.28
df	3	3	3	3	3	3	3	3
Asymp. Sig.	0.001	0.000	0.001	0.001	0.010	0.000	0.002	0.026

For comparison purposes, we divided our groups into the one using drugs and the one not using them. Mann-Whitney U-test revealed significant differences between the two groups on the EDI scales except for interoceptive awareness (IA). In our study drive for thinness (DT), ineffectiveness (I), interpersonal distrust (ID) and body dissatisfaction (BD) were significantly lower in teenagers who related using drugs. Drug use in the group of secondary school students coexists with maturity fear (MF), bulimia-like behaviours (B) and perfectionism (P).

Table 3. The results of Mann-Whitney U-test for classification into two groups: using drugs and not using drugs

	Drive for thinness (DT)	Bulimia (B)	Body dissatisfaction (BD)	Ineffectiveness (I)	Perfectionism (P)	Interpersonal distrust (ID)	Interceptive awareness (IA)	Maturity fear (MF)
Mann-Whitney U	226996	224417	225790	212926	232180	211329	231132	219378
Z	-1.994	-4.039	-2.641	-3.388	-2.163	-3.892	-1.261	-2.757
As. Sig. 2-tailed	0.046	0.000	0.008	0.001	0.031	0.000	0.207	0.006

Table 4. Means and standard deviations for the EDI scales among Polish adolescents

	Drugs	N	Mean	Std deviation	Minimum	Maximum
Drive for thinness (DT)	Didn't use	1268	3.5733	4.7270	0	21
	Used or tried	383	3.4830	5.0421	0	21
	Total	1651	3.5524	4.8005	0	21
Bulimia (B)	Didn't use	1274	1.3571	2.6623	0	18
	Used or tried	399	2.0401	3.3712	0	17
	Total	1673	1.5200	2.8612	0	18
Body dissatisfaction (BD)	Didn't use	1263	8.3587	7.3803	0	27
	Used or tried	392	7.4515	7.3577	0	27
	Total	1655	8.1438	7.3829	0	27
Ineffectiveness (I)	Didn't use	1258	5.2107	4.2799	0	36
	Used or tried	382	4.5576	4.3472	0	22
	Total	1640	5.0585	4.3032	0	36
Perfectionism (P)	Didn't use	1266	3.4984	3.3934	0	18
	Used or tried	395	3.8962	3.5612	0	18
	Total	1661	3.5930	3.4371	0	18
Interpersonal distrust (ID)	Didn't use	1252	4.5679	3.7283	0	20
	Used or tried	388	3.8273	3.6236	0	18
	Total	1640	4.3927	3.7161	0	20
Interceptive awareness (IA)	Didn't use	1247	4.3432	4.3757	0	27
	Used or tried	387	4.1240	4.3237	0	20
	Total	1634	4.2913	4.3631	0	27
Maturity fear (MF)	Didn't use	1249	5.6982	4.2297	0	24
	Used or tried	387	5.3204	4.7509	0	24
	Total	1636	5.6088	4.3601	0	24

## DISCUSSION

In the group of the studied secondary school students high correlations between drug use and the EDI scales except of a scale of interoceptive awareness (IA) were found.

High tendency to bulimia-like behaviour (B) coexists with common drug use in adolescents in the present study. The previous results suggest that there are a few reasons for using drugs by women with bulimia and anorexia. Anorectic patients claimed curiosity and a desire to experiment with agents. The reason given by girls with bulimia was a desire to diminish appetite (11). The results of other studies revealed the possibility of abnormal personality development role in the etiology of bulimia nervosa or anorexia nervosa. Researches report positive correlation between personality disorders mostly on the borderline of histrionic personality and eating disorders (8). Therefore, it may be suggested that eating disorders symptoms could be accompanied by drug use. But in our study the Drive for thinness (DT), Ineffectiveness (I), Interpersonal distrust (ID) and Body dissatisfaction (BD) were significantly lower in teenagers who related using drugs. Krupa et al. (5) stress using drugs may initially fulfil the need of contact, be a source of individual's good feeling. Even at the beginning drug use brings some benefits, releases from painful self-reflection, produces relaxation, disinhibition, however it eventually leads to self-destruction.

The results revealed that drug use in the studied group of secondary school students coexists with maturity fear (MF) These findings are consistent with the report by Pawłowska et al. (10) who studied persons suffering from anorexia. They found that anorectic women are characterized by "dependence, fear of maturity, tendency to escape from reality". They have also a negative picture of themselves and of other people. According to Noordenbos (9) and Mester (7) women suffering from psychological stitophobia have a high sense of helplessness and feel incompetent in coping with problems.

## CONCLUSIONS

1. Ineffectiveness (I), Interpersonal distrust (ID), the Drive for thinness (DT) and Body dissatisfaction (BD) were significantly lower in teenagers who related using drugs.

2. Drug use in the group of secondary school students coexists with Maturity Fear (MF), Bulimia-like behaviours (B) and Perfectionism (P).

3. No significant relationship was found between drug use and a scale of interoceptive awareness (IA).

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#### SUMMARY

The aim of this study was the evaluation of the connections between eating disorder symptoms and drug use in nonclinical Polish population. The study was carried out in the group of 1,694 secondary school students, (1,058 girls and 636 boys), aged 16–21 years. The tests were performed by a multi-dimensional Eating Disorder Inventory (EDI). A specially devised questionnaire was used to identify a frequency of drug use in adolescents. The results showed generally strong correlations between the EDI scores and drug use. Ineffectiveness (I), Interpersonal distrust (ID), Drive for Thinness (DT) and Body dissatisfaction (BD) were significantly lower in teenagers who owned up to using drugs. 2. Drug use in the group of secondary school students coexists with Maturity fear (MF), Bulimia-like behaviours (B) and Perfectionism. 3. No significant relationship was found between drug use and the Interoceptive awareness (IA) scale.

#### Używanie narkotyków a objawy zaburzeń odżywiania wśród uczniów szkół średnich

Celem badań była ocena związków pomiędzy zaburzonymi postawami wobec odżywiania a używaniem narkotyków. Badaniami objęto 1694 uczniów szkół średnich w wieku od 16 do 21 roku życia (1058 dziewcząt i 636 chłopców). W badaniach zastosowano Inwentarz Zaburzeń Odżywiania EDI oraz własny protokół naukowo-badawczy, oceniający używanie narkotyków wśród młodzieży. W wyniku przeprowadzonych badań wykazano silne zależności pomiędzy zaburzonymi postawami wobec odżywiania a używaniem narkotyków. 1. Poczucie nieefektywności, brak zaufania do innych, dążenie do szczupłości i niezadowolenie z własnego wyglądu były istotnie niższe w grupie osób, która potwierdzała używanie narkotyków. 2. Używanie narkotyków występowało z lękiem przed dojrzałością, zachowaniami bulimicznymi i dążeniem do perfekcjonizmu. 3. Nie znaleziono istotnych związków pomiędzy używaniem narkotyków a skalą wewnętrznej świadomości.