

HIGH SCHOOL STUDENTS' AWARENESS OF ANOREXIA AND BULIMIA THREATS

ŚWIADOMOŚĆ UCZNIÓW KLAS LICEALNYCH NA TEMAT ZAGROŻENIA ANOREKSJĄ I BULIMIĄ

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ABSTRACT

Aim. The aim of this study was to analyze the attitudes of high school students towards anorexia and bulimia.

Material and methods. The study was conducted from December 2012 to March 2013 and involved 150 3rd grade students in two high schools in Hrubieszów (Lublin Province). The research was carried out by means of a survey method, a poll auditorium technique. An original questionnaire consisting of 39 questions was used.

Results. The results of the analysis indicate that: 5.3% of the examined students were underweight, 75.3% had normal weight, 16.7% students were overweight and 2.7% were obese. According to 95.0% of respondents, anorexia and bulimia are human illnesses. None of the examined expressed a positive attitude towards anorexia. 1.3% of the students declared a positive attitude towards bulimia. In spite of the fact that almost half of the pupils were satisfied with their figures, respondents had been on a weight loss diet in the past or at the moment of conducting the survey (36.0% and 9.3% respectively). The level of knowledge on anorexia and bulimia was higher among females than males. The mass media (Internet, television, newspapers and magazines) turned out to be the primary source of examined students' knowledge about anorexia and bulimia.

Conclusions. The students' knowledge about anorexia and bulimia can be estimated as insufficient, although examined pupils were aware of main symptoms, complications and management of anorexia and bulimia.

KEYWORDS: anorexia, bulimia, youth, high school students.

STRESZCZENIE

Cel. Celem pracy była analiza postaw uczniów liceów wobec anoreksji i bulimii.

Materiał i metody. Badanie przeprowadzono w okresie od grudnia 2012 r. do marca 2013 r. i objęto nim 150 uczniów klas III dwóch liceów w Hrubieszowie (woj. lubelskie). Badanie zrealizowano metodą sondażu diagnostycznego, techniką ankiety audytoryjnej. Narzędziem badawczym był autorski kwestionariusz ankiety składający się z 39 pytań.

Wyniki. Wyniki przeprowadzonej analizy wskazują, że, niedobór masy ciała występował u 5,3% badanych, prawidłowa masa ciała u 75,3% ankietowanych, 16,7% stanowili uczniowie z nadwagą, a 2,7% uczniowie otyli. Otyłość i nadwaga częściej dotyczyła uczniów niż uczennic, z kolei niedobór masy ciała częściej występował u kobiet. W odczuciu ponad 95% respondentów anoreksja i bulimia są jednostkami chorobowymi. Nikt spośród badanych nie przyjął pozytywnej postawy wobec anoreksji. Pozytywną postawą wobec bulimii charakteryzowało się 1,3% uczniów. Pomimo że prawie połowa uczniów była zadowolona ze swojej sylwetki, respondenci stosowali w przeszłości lub w momencie realizacji sondażu dietę redukującą masę ciała (odpowiednio 36% i 9,3%). Zasadniczym źródłem wiedzy badanych licealistów o anoreksji i bulimii okazały się środki masowego przekazu.

Wnioski. Wiedzę uczniów na temat anoreksji i bulimii można ocenić jako niewystarczającą, choć ankietowana młodzież знаła główne objawy, powikłania i sposoby leczenia anoreksji i bulimii.

SŁOWA KLUCZOWE: anoreksja, bulimia, młodzież, licealiści.

Introduction

The individual physical appearance has a strong influence on human psychological well-being, the estimation of the value of a human being and self-esteem. Many people think that a contemporary human has to be slim. 'Slim persons are attributed to be healthy, more successful, possessing control and sexually attractive. Obesity is associated with ugliness, deprivation of the control over somebody's life, with hopelessness, (...) la-

ziness, lack of self confidence' [1, 2]. Young people can experience anxiety caused by their not accepted physical appearance and not accepted body mass. The inadequate methods of losing somebody's weight become the consequences of such an attitude. The distorted attitude towards somebody's own body, improper nutrition and the inadequate methods of losing somebody's weight can cause the development of anorexia nervosa or bulimia nervosa [3–6].

The literature review, the increasing number of patients with the diagnosis of anorexia or bulimia and the information appearing in mass media indicate for high prevalence of eating disorders. At the beginning of the 21st century anorexia and bulimia became the most important eating disorders of the Western societies. In the countries undergoing the westernization process, for instance in Poland, the considerable increase in the number of patients treated for anorexia nervosa or bulimia nervosa has been observed for the last several years [7]. Anorexia or bulimia are an individual problem, but also a social, medical and pedagogical problem [1, 8, 9, 10].

The eating disorders are diagnosed mostly in childhood as well as in early or late adolescence. They have a negative and significant impact on the child's or teenager's physical, psychical or emotional development. The eating disorders often last for many years and are chronic, so they remain a psychiatric problem in **adult** patients [11].

Aim

The aim of our paper was to analyze the attitudes of high school students towards anorexia and bulimia.

To reach the goal the following research issues were formulated:

1. Did the examined pupils consider anorexia or bulimia to be a disease?
2. What percentage of respondents were on a weight loss diet in the past or at the moment of conducting the survey?
3. What is the respondents' level of knowledge on anorexia and bulimia?
4. Did the gender of the polled pupils have an influence on their level of knowledge on anorexia and bulimia?
5. What are the main sources of the polled students' knowledge about anorexia and bulimia?

Material and methods

The study was conducted from December 2012 to March 2013 and involved 150 3rd grade students in two high schools in Hrubieszów (Lublin Province). The research was carried out by means of a survey method, a poll auditorium technique. An original questionnaire consisting of 39 questions was used, including 3 open-end questions and 36 closed-end question. Some of the questions were multiple choice questions.

The high school students' attitudes towards anorexia and bulimia were treated as dependent variables, whereas the pupil's gender was treated as an independent variable. To identify distinctions and dependences between variables the Chi² test was used. Values with probability <0.05 were regarded as statistically significant.

Results

The students' age varied between 18 and 20 years, with the arithmetic mean 19.08 and the standard deviation 0.47 (**Table 1**). Girls constituted 64.0% of the polled youth, boys 36.0%.

Table 1. The structure of the studied group by age

Age	Percentage
18 years old	7.3
19 years old	76.7
20 years old	16.0

Source: authors' study

The results of the analysis indicate that 5.3% of the examined pupils were underweight, 75.3% had normal weight, 16.7% pupils were overweight and 2.7% were obese. Statistically significant differences in the body mass were observed according to the gender. The percentage of underweight persons was higher among girls, whereas the percentage of overweight and obese pupils was higher among boys ($p < 0.05$, **Table 2**).

Table 2. The body mass of surveyed students by gender (The differences are statistically significant, Chi² = 12.047 (3); $p = 0.07$)

			Gender		Total
			Women	Men	
The body mass	Underweight	Number	7	1	8
		% of Gender	7.3%	1.9%	5.3%
	Normal body mass	Number	78	35	113
		% of Gender	81.3%	64.8%	75.3%
	Overweight	Number	10	15	25
		% of Gender	10.4%	27.8%	16.7%
	Obesity	Number	1	3	4
		% of Gender	1.0%	5.6%	2.7%
Total	Number	96	54	150	
	% of Gender	100.0%	100.0%	100.0%	

Source: authors' study

94.0% of the polled adolescents expressed the opinion that anorexia and bulimia were the forms of eating disorders, 4.0% of the respondents represented the opposite opinion. 2.0% of the pupils were not able to answer the question (**Table 3**).

Table 3. The respondents' answer to the question 'Are anorexia and bulimia the forms of eating disorders?'

Are anorexia and bulimia the forms of eating disorders?	Percentage
Yes	94.0%
No	4.0%
I do not know	2.0%

Source: authors' study

According to own research, the vast majority of the pupils (91.3%) considered anorexia and bulimia to be psychiatric diseases, 4.7% of the examined expressed a different opinion, 4.0% did not know which answer to choose (**Table 4**).

Table 4. The respondents' answer to the question 'Are anorexia and bulimia psychiatric illnesses?'

Are anorexia and bulimia psychiatric illnesses?	Percentage
Yes	91.3%
No	4.7%
I do not know	4.0%

Source: authors' study

The majority of the polled youth (95.3%) estimated that psychological factors were the most important reason in the development of anorexia and bulimia (**Table 5**). At the same time, 46.0% of the examined enumerated cultural factors and 39.3% family factors. According to 23.3% of the pupils, genetic factors play an important role in anorexia and bulimia development. Merely 1.3% of the examined (two boys) did not know at all what the reasons for anorexia and bulimia could be.

Table 5. The factors predisposing to anorexia and bulimia according to the surveyed students

The factors predisposing to anorexia and bulimia	Percentage
Psychological	95.3%
Cultural	46.0%
Family	39.3%
Genetic	23.3%
I do not know	1.3%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

The signs of anorexia given by the examined students are presented in **Table 6**. The majority of the students (84.0%) indicated self-imposed starvation as the essential sign of anorexia. A little fewer (74.7%) enumerated the loss of appetite. Next 69.3% of the respondents chose low self-esteem. 55.3% of the polled adolescents claimed that excessive dieting was the sign of anorexia and 42.7% indicated amenorrhoea.

Table 6. Knowledge of the symptoms of anorexia among the polled pupils

The symptoms of anorexia	Percentage
Self-imposed starvation	84.0%
Loss of appetite	74.7%
Low self-esteem	69.3%
Excessive dieting	55.3%
Amenorrhoea	42.7%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Among the complications of anorexia anaemia and muscle hypotrophy appear first. 80.7% of the examined chose anaemia and 74.0% selected the muscle hypotrophy. 62.0% claimed that hair loss or thinning were the complications of anorexia, 44.0% indicated infertility (**Table 7**).

Table 7. The knowledge on the complications of anorexia among the polled students

The complications of anorexia	Percentage
Anaemia	80.7%
Muscle hypotrophy	74.0%
Hair loss or thinning	62.0%
Infertility	44.0%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Binge eating was the most frequently chosen answer (75.3%) to the question 'What are the signs of bulimia?' (**Table 8**). On the subsequent positions there were self-induced vomiting (63.3%) and rapid and out-of-control eating (61.3%). The use of laxative or diuretic drugs was chosen by 44.0% of the respondents.

Table 8. The knowledge of the symptoms of bulimia among the polled students

The symptoms of bulimia	Percentage
Binge eating	75.3%
Self-induced vomiting	63.3%
Rapid and out-of-control eating	61.3%
Taking laxative or diuretic drugs	44.0%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Women more often than men indicated binge eating (79.2%), self-induced vomiting (72.9%) and the use of laxative drugs (49.0%). Men 9 times more often than women were not able to point out any sign of bulimia (women – 9.3%, men – 1.0%).

The polled adolescents asked about the complications of bulimia mentioned diarrhoea (44.0%), dental carries (42.0%), constantly increased thirst (41.0%) and headaches (38.0%) most of the time (**Table 9**).

Table 9. The knowledge on the complications of bulimia among the polled students

The complications of bulimia	Percentage
Diarrhoea	44.0%
Dental carries	42.0%
Constantly increased thirst	41.0%
Headaches	38.0%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Women in comparison to men showed a higher level of knowledge on the complications of bulimia. Girls pointed out such complications as constantly increased thirst, dental carries, headaches more often than men. Men more often than women were not able to enumerate any complications of bulimia (men – 24.1; women – 7.3%).

The polled youth demonstrated relatively good knowledge on the methods of anorexia and bulimia management (**Table 10**). 88.7% of the examined agreed with the opinion that psychotherapy was the proper treatment of anorexia and bulimia. 70.7% of the pupils quoted hospital treatment, 28.0% quoted outpatient pharmacotherapy. 2.7% of the respondents claimed that one could deal with anorexia and bulimia oneself. Only 2.0% of the examined did not know how to answer the question.

Table 10. The students' knowledge on the management of anorexia nervosa and bulimia nervosa

Method	Percentage
Psychotherapy	88.7%
Hospital treatment	70.7%
Outpatient pharmacotherapy	28.0%
One can deal with the disease oneself	2.7%
I do not know	2.0%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Women were significantly more aware that anorexia and bulimia required hospital treatment (women – 79.2%, men – 55.6%, $p < 0.05$). Conversely, men significantly more often represented the opinion that outpatient pharmacotherapy was sufficient to treat anorexia and bulimia (31.5%) and that one could deal with the diseases oneself (5.6%). Men chose the option 'I do not know' more often than women (women – 1.0%, men – 3.7%).

Table 11 presents the polled students' sources of knowledge on anorexia and bulimia. The majority of students (80.0%) learned about various aspects of anorexia and bulimia from the Internet. 72.7% of the polled youth

derived the information from television, 46.0% from magazines and newspapers. 42.0% of the students acquired the knowledge on anorexia and bulimia from lessons at school and 26.0% from friends. 16.0% of the examined claimed that they learned about anorexia and bulimia from scientific literature and 12.7% from their parents.

Table 11. The pupils' sources of knowledge on anorexia and bulimia

The source of knowledge	Percentage
Internet	80.0%
Television	72.7%
Magazines, newspapers	46.0%
Lessons at school	42.0%
Friends	26.0%
Scientific literature	16.0%
Parents	12.7%

The percentage did not sum up to 100% because it was a multiple choice question.

Source: authors' study

Among 150 polled students nobody presented a positive attitude towards anorexia. As many as 77.3% of the students expressed a negative attitude towards the disease, 17.3% of the respondents stated that they had a neutral attitude towards anorexia and 5.3% of the youth were not able to specify their views on this issue (**Table 12**).

Table 12. What is your attitude towards anorexia?

What is your attitude towards anorexia?	Percentage
Negative	77.3%
Neutral	17.3%
I have no opinion.	5.3%

Source: authors' study

Women more often expressed a neutral attitude (19.8%) and men more often expressed a negative attitude (81.5%).

The examined students expressed the similar attitude towards bulimia. 76% of them described aversion to bulimia, 17.3% represented a neutral attitude and 5.3% were not able to specify their views on this issue (**Table 13**). Only 1.3% of the students claimed that bulimia was a positive phenomenon.

Table 13. What is your attitude towards bulimia?

What is your attitude towards bulimia?	Percentage
Negative	76.0%
Neutral	17.3%
I have no opinion.	5.3%
Positive	1.3%

Source: authors' study

Men more often represented a positive attitude (3.7%) and women more often represented a neutral attitude (20.8%).

Less than half of the polled youth were satisfied with their figure (**Table 14**). Almost 40.0% of the pupils wanted to loose their weight and 12% of them wanted to gain their weight.

Table 14. The respondents' answers to the question 'Are you satisfied with your figure?'

Are you satisfied with your figure?	Percentage
Yes	48.7%
No, I want to lose my weight.	39.3%
No, I want to gain my weight.	12.0%

Source: authors' study

There were statistically significant differences observed between genders ($p < 0.05$). 45.0% of women and 53.7% of men were satisfied with their figures. 47.0% of examined women in comparison with 26.0% of examined men were not satisfied with their figures and wanted to loose their weight. The percentage of students not satisfied with their figures and wanting to gain their weight was 20.0% among men and only 7.0% among women (**Table 15**).

Table 15. The respondents' answers to the question 'Are you satisfied with your figure?' according to gender

		Gender		Total
		Women	Men	
Are you satisfied with your figure?	Yes	Number 44	29	73
		% z Gender 45.8%	53.7%	48.7%
	No, I want to lose my weight.	Number 45	14	59
		% z Gender 46.9%	25.9%	39.3%
	No, I want to gain my weight.	Number 7	11	18
		% z Gender 7.3%	20.4%	12.0%
Total		Number 96	54	150
		% z Gender 100.0%	100.0%	100.0%

The differences were statistically significant, $\chi^2 = 9.222$ (2); $p = 0.010$

Source: authors' study

Almost 10% of the polled students were on the weight loss diet at the moment of conducting the survey. 36.0% of the respondents had been on the slimming diet in the past. Over half of the adolescents had never been on a slimming diet (**Table 16**).

Table 16. The respondents' answers to the question 'Have you ever been on a weight loss diet?'

Have you ever been on a weight loss diet?	Percentage
No, I have never been on a diet.	54.7%
Yes, I am on a diet.	9.3%
Yes, I was on a diet in the past.	36.0%

Source: authors' study

Girls were on a slimming diet more often than boys. These differences are shown in **Table 17**.

Table 17. Being on a weight loss diet according to gender

Gender	On a weight loss diet at the moment of conducting the survey (%)	On a weight loss diet in the past (%)	Never on a weight loss diet (%)
Women	11.5	38.5	50.0
Men	5.6	31.5	63.0

Source: authors' study

Discussion

After investigating the attitudes of the secondary school students towards anorexia and bulimia, it was stated that the respondents had the basic knowledge about various aspects of anorexia and bulimia and the main symptoms or complications of the diseases. The respondents' attitudes towards these eating disorders can be estimated as sufficient. The mass media turned out to be adolescents' main source of knowledge about the diseases. However, the awareness of anorexia and bulimia among the polled youth is not high enough to prevent the diseases in a sufficient way.

In our study the respondents pointed the psychological factors as the most important risk factors of eating disorders. Cultural, family and genetic factors were enumerated in subsequent positions. Moreover, in Chwałczyńska's study the respondents indicated psychological, family, cultural, environmental and genetic factors [12]. Similar results were obtained by Godala and co-authors. In their study most of the students enumerated cultural factors as the main reason for eating disorders [13]. Comparable results were observed by Ziora and co-authors. In their study the polled youth mentioned cultural factors (social environment pressure, the media, colleagues), psychological factors (individual features), family and genetic factors [14].

The lack of own body acceptance is the essential element of eating disorders. In our study the physical appearance was important for 72.7% of the students and very important for 15.3% of the students. Over half of the respondents were not satisfied with their figures and 10.7% of the respondents were thinking about their appearance all the time. In Chwałczyńska and co-authors' study it was confirmed that physical appearance was very important for young people and the students spent a lot of time (4 -5 hours a day) taking care of their appearance. Only 30% of them approved their figure and appearance [12]. A similar observation was reported by Ziora and co-authors – in their study 43% of the respondents were not satisfied with their appearance [14].

45.3% of the polled adolescents were on a weight loss diet at the moment of conducting the survey or in the past. According to Ziara and co-authors, almost 50% of the respondents used some forms of losing their weight at least once in their life [14].

In our study, 80% of the pupils indicated the Internet as their main source of their knowledge on anorexia and bulimia. Television (72.7%) and newspapers or magazines (46%) were named in the subsequent positions. Similar results were obtained by Ziara and co-authors. In their research, 70.7% of polled youth chose the Internet as the main source of information [14]. In Godała and co-authors' study a little lower percentage of respondents pointed out the mass media as the main source of information [13].

Conclusions

1. According to 95% of respondents, anorexia and bulimia are diseases. None of the examined expressed a positive attitude towards anorexia. The positive attitude towards bulimia was formulated by 1.3% of students.
2. In spite of the fact that almost half of the students were satisfied with their figures, some of the respondents were on a weight loss diet in the past or at the moment of conducting the survey (36.0% and 9.3%, respectively).
3. The students' knowledge about anorexia and bulimia can be estimated as insufficient although the polled adolescents were aware of main symptoms, complications and management of anorexia and bulimia.
4. The level of knowledge on anorexia and bulimia was significantly higher among female than male respondents.
5. The mass media (Internet, television, newspapers and magazines) came out to be the primary source of examined students' knowledge about anorexia and bulimia.

References

1. Kosslyn SM, Rosenberg RS. Psychologia. Mózg – człowiek – świat. Kraków: Wydawnictwo Znak; 2006. 50–56.
2. Startek I. Motyle w sieci. Krótka charakterystyka ruchu pro - Ana. *Current Problems of Psychiatry* 2011; 12 (3): 322–329.
3. Dycht M, Marszałek L. Mass media i reklama a choroby cywilizacyjne: anoreksja i bulimia. *Seminare* 2011; 30: 147–158.
4. Klimberg A, Kacperska M, Marcinkowski JT. Wiedza, postawy i zagrożenie anoreksją wśród studentek bydgoskich. *Hygeia Public Health* 2011; 46 (4): 462–466.
5. Kowalczyk M. Zagrożenie młodzieży anoreksją i bulimią. *Problemy opiekuńczo-wychowawcze* 2008; 8: 34–40.
6. Tomaszewska IE, Babicz-Zielińska E, Tomaszewski D. Odmienne postrzeganie własnych sylwetek przez młodzież a ryzyko występowania zaburzeń w odżywianiu. *Problemy Higieny i Epidemiologii* 2012; 93 (4): 812–816.
7. Heitzman J. *Psychiatria – podręcznik dla studentów medycznych*. Warszawa: Wydawnictwo Lekarskie PZWL; 2007. 74.
8. Józefik B. Anoreksja i bulimia psychiczna. Rozumienie i leczenie zaburzeń odżywiania się. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego; 1999. 115–117.
9. Kowalczyk M. Diagnoza i profilaktyka anoreksji i bulimii psychicznej u młodzieży szkolnej – w działalności pedagogicznej nauczycieli wf. *Wychowanie fizyczne i zdrowotne* 2008; 7: 6–12.
10. Szewczyk L, Talik E. Wybrane zagadnienia z psychologii klinicznej i osobowości. *Psychologia kliniczna nastolatka*. Lublin: Towarzystwo Naukowe KUL; 2009. 79–96.
11. Kiejna A, Małyszczak K, Mazurek J. *Psychiatria – wybrane zagadnienia*. Wrocław: Akademia Medyczna im. Piastów Śląskich; 2006. 76–94.
12. Chwałczyńska A, Bembenek A. Ocena świadomości dziewcząt w wieku gimnazjalnym dotycząca jadłowstrętu psychicznego. *Endokrynologia, Otyłość i Zaburzenia Przemiany Materii* 2010; 6 (3): 118–123.
13. Godała M, Karasińska E, Trafalska E, Kolmaga A, Szatko F. Wiedza studentów Uniwersytetu Medycznego w Łodzi na temat zaburzeń odżywiania. *Problemy Higieny i Epidemiologii* 2012; 93 (1): 80–85.
14. Ziara K, Pilarz ŁB, Sztylc J, Oświęcimska J. Ocena stanu wiedzy nastolatków na temat anorexia nervosa. *Endokrynologia, Otyłość i Zaburzenia Przemiany Materii* 2009; 5 (1): 12–18.

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