

**Research Article****Preclinical Manifestations of Students' Eating Disorders as an Impact of the Information and Communication University environment**

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**ABSTRACT:**

Students' eating disorders include conditions and diseases characterized by irregular foods intake accomplished by stable anxiety effect regarding the mass and shape of their bodies. The main method of the research is a structured interview (N = 781), which includes 453 undergraduate freshmen(222 boys and 231 girls) as well as 328 second year graduate students (162 boys and 166 girls). The results of the study show that students' eating disorders are characterized by a wide range of behavioral practices, from the total exclusion of food intake, the use of different diets, to overeating. In most cases it coincides with the periods of exams or more intensive learning. Information and communicative university environment is able to create a motivation for eating disorders, which damages individual's health and well-being. The most typical forms of students' eating disorders affected both girls and boys, are nervous bulimia and anorexia nervosa.

**Keywords:** information and communicative university environment, students, eating disorders, nervous bulimia, anorexia nervosa.

**INTRODUCTION**

Eating disorders contribute to the formation of a number of psychosomatic disorders, differing in the potential for its influence on the formation of population's physical and social health. The main reason for the study is students' stable motivational and value systems associated with foods intake, which are not the results of the previously diagnosed somatic pathology. In this area of medicine, there is a fairly intensive research activity, confirmed by the expansion of the list of eating disorders.

Mass communication has a great influence on students' eating disorders, in particular, the self-preservation practices(Vangorodskaya, 2017).

During the last decade of the XXI century, some authors (Kibitov&Mazo, 2016) consider it appropriate to distinguish a special category named "paroxysmal overeating" from traditional nosology such as anorexia nervosa, bulimia nervosa and other nonspecific eating disorders.

In the discussion regarding the feasibility of this expansion, there is an evidence of considering paroxysmal overeating as a separate psychosomatic unit (Bulik, 2014). However, a number of experts point to the proximity of etiopathogenesis of bulimia nervosa and paroxysmal overeating. In addition, the therapy of both these diseases is mostly the same (Carrard, Linden &Golay, 2012; Spielmans, Benish, Marin, 2013), that it is proved by their common etiology. The researches give the chance to allocate two versions of bulimia nervosa: cleansing and not purgative nerve bulimia, where the second one can be identified as paroxysmal overeating.

Bulimia is an eating disorder which is characterized by repeated overeating, accompanied by compensatory interventions, such as the forced vomiting, an excessive physical exertion or the non-therapeutic

consumption of laxatives or diuretics. Both men and women, suffering from bulimia, are irritated by the increase in their weight and feel discontent with the size and shape of their bodies. Food is often taken secretly, people have no sense of pleasure in eating, instead they feel the sense of shame and guilty.

In the clinically developed stage, bulimia is identified as a disease of the gastrointestinal tract, the pathology of the cardiovascular system against the backdrop of hydration caused by an imbalance of electrolytes. Eating disorders can be accompanied by mental disorders, which subsequently affect the occurrence of professional deformations (Volkova, 2013).

People, suffering from a nonspecific eating disorder, often lose control of themselves while eating. Unlike bulimia nervosa, episodes of uncontrolled food intake are not accompanied by the compensatory behavior, such as forced body cleansing, fasting or excessive exercise. Because of that, many people with persistent nonspecific eating disorders suffer from obesity, and they are at risk of developing cardiovascular pathology.

According to the World Health Organization, among people aged 20 and older there is 35.0 % of those who are overweight (body mass index (BMI)  $\geq 25$  kg / m<sup>2</sup>), and 11% who has obesity (BMI  $\geq 30$  kg / m<sup>2</sup>). In Russia, the prevalence of overweight and obesity is 30.0 % and 25.0 % of the population respectively (Emelin, 2015).

Individuals with anorexia nervosa have unrealistic image of their own body and attempt to control the amount of food intake because of the fear of overweight. For this pathology the body weight is kept at least 15.0 % below the norm for a long time, with BMI – 17.5 kg / m<sup>2</sup> or lower.

Patients with this pathology view themselves as overweight. They extremely concerned about their appearance, even in cases where their bodies have insufficient weight. The realization of such behavioral model is supported by the obsessive or overvalued fear of obesity.

Nowadays the intensification and unification of social and cultural processes contribute to the formation of a special type of personality,

named a “mass person” (Bosov&Petrunova, 2017).

Trying to reduce weight, patients avoid eating high-calorie foods or induce vomiting. The lack of legislative acts regulating the selling of laxatives, diuretics, and suppressants for non-therapeutic purposes can lead to endocrine disorders such as amenorrhea, impotence, increasing level of hormone and cortisol, as well as heart diseases, reduction of mineral density of bone tissue, multiple organ failure, etc. in this category of patients. Persistent eating disorders are characterized by a high degree of comorbidity with other mental disorders (Swanson et al., 2011), which determine their medico-social significance.

## MATERIALS AND METHODS

The aim of the study is to assess the influence of the information and communication university environment on the food behaviorpractices among university students. The main method of the research is a structured interview. A total sampling was 781, which includes 453 undergraduate freshmen (222 boys and 231 girls) as well as 328 second year graduate students (162 boys and 166 girls). The article is published with the financial support of the Russian Foundation for Basic Research, the project no16-03-00057. The research was conducted in 2016 in four universities, located in Belgorod region: Belgorod State National Research University, Belgorod State Technological University; Belgorod State Agricultural University; Belgorod State Institute of Culture. The results of structured interviews were processed by the software package SPSS 22.0 for Windows.

## RESULTS AND DISCUSSION

Policy of health protection is one of the main directions of the development of Russian national research universities. It is interesting to assess the level of impact of information and communicative university environment on correction of motives and goals that determine students' food behavior practices. Under the information and communicative university environment we understand the

communication system of actors which are actually or potentially involved in the processes of production and implementation of scientific

and educational services and products of material production (Kopyitov, 2015). The main results of the research are presented in Table 1.

**Table 1** □ The results of respondents' responses to the questionnaire, %

Questions	Undergraduate students, %	Graduate students, %
<b>The personal factor</b>		
Do you think that an individual's temperament determines his/her predisposition to eating disorders?	68	87
Can the refusal of a balanced diet alleviate depression?	83	91
<b>The psychological factor</b>		
Can proper nutrition reduce the risk of diseases?	96	98
Is there any of your friends often sit on a diet?	91	89
If any of your friends complain on frequent weight fluctuations?	40	58
<b>The family factor</b>		
Can the excessive family guardianship be a predictor of eating disorders?	83	97
Could the lack of parents' attention be a predictor of eating disorders?	81	84
Can jokes about child's appearance be a predictor of his/her eating disorders?	74	90
Will you strictly regulate meal intake in your family, avoiding snacking between main meals?	5	3
<b>Media</b>		
Do you consider girls beautiful who starred in commercials?	40	32
Are you trying to achieve the characteristics of girls who appear in commercials?	63	41
Would you recommend your friend to achieve the standards of girls who appear in commercials?	45	31
Do you support the assertion that in order to be in good shape, it is necessary to adjust the diet?	93	97

Assessing the psychosomatic model of mental health, associated with eating disorders, it is necessary to mention the influence of several groups of factors.

**The personal factor.** Temperament as one of the personal characteristic of an individual has a special significance in the assessment of the eating disorder development in the preclinical period. It is believed that human temperament is determined in part by the genome, forming the features of neurochemical interactions.

Features of temperament lead to different patterns of person's behavior which can be characterized by severe anxiety, obsessive-compulsive thinking that provoke different eating disorders. Simultaneously the process of fasting/overeating is accompanied by changing of redox reactions of brain activity that in itself is an element of prolonged (supporting) eating disorders. For example, both malnutrition and overeating can lead to the production of chemical substances, reproducing the feelings of

peace and euphoria (Sten, 2002), which also contribute to the reducing of anxiety and depression.

**The psychological factor.** People with eating disorders are usually characterized by having perfectionism. They form unrealistic plans for achieving perfection, regardless the propriety and necessity of perfection in a particular situation. Despite of this, perfectionists feel inadequate, inferior, and worthless. They evaluate the world clearly in black and white, devoid of any shades. The lack of treatment aimed at compensation of eating disorders, leads to the lack of personal identity and shapes the behavior, which excludes sexuality.

**The social factor.** The social factor can be seen as a mechanism that influences on the genetic factor, which is supporting the preclinical pathological condition; affects the intensity of clinical manifestations of the personal and psychological factors as well as the development and exacerbation of the disease (Allen, 2017). In

modern world the role of the social factor is increasing (Lipai, Volkova & Gilenkova, 2015) in complexity of information and communication technologies, representing trendy body standards.

The social factor includes a family component. A survey of people with eating disorders conducted by S. Agras, L. Hammer and F. McNicholas showed that this category of disorders could be a result of two diametrically opposite family information and communication models. One group of respondents remembered a close family care while another one mentioned the parents' indifference in their childhood. Thus, both groups of respondents indicated jokes, criticisms or caustic remarks about their growing body from parents or other relatives. The majority of respondents mentioned that in times of emotional or physical absence of a father, mothers neglected their family responsibilities. At the same time they had a setup to high expectations of success and independence.

In addition, the studies have demonstrated that daughters, who grew up in families where mothers suffered from eating disorders, were at greater risk of developing the same disease than children whose mothers did not pay much attention to the quality and quantity of food (Agras, Hammer & McNicholas, 1999). According to the research (Birch, Fisher, & Krahnstoever, 2003), the harder parents limited the children's food intake during the snack time, the more the desire they had to eat forbidden foods, what could cause serious eating disorders in the future.

Sometimes the appearance of important and significant people can create an environment that encourages the specific behavior models that lead to eating disorders. It is more typical for creative theatre and dance groups, as well as close youth communities (Moskovitz, 2001), where the mutual negative peer influences superior the social impact of the society as a whole. People, who are predisposed to eating disorders, tend to experience a dysfunction of family communication, interpreting it as loneliness, emptiness, the lack of joint activities. Some of them can only be engaged in superficial

communication that occurs in conflicts between representatives of different generations; be a target of psychological pressure of older relatives, trying to impose their point of view to youth and children. In this case, they often want to have strong friendship, build trusting relationship with someone, but they make very weak attempts to get them (Lenzenweger & Clarkin, 2005), being afraid that their imaginary and real shortcomings can be the subject of discussion or criticism.

**The pressure of morality.** In developed western democracies as well as in some developing countries there are specific requirements for the women's appearance. Morality is sustained by gender and social stereotypes: "In order to consider herself successful a woman must have a good husband, healthy children, a sufficient number of friends, a high-paying job, a gorgeous home and an appearance of a model" (Domar, 2003).

In the social factor the impact of media dominates. The Russian population also experiences a constant advertising pressure from food producers, pharmaceutical and hygiene companies. About 536–544 commercials a week were demonstrated in 2005–2006 on Russian TV. The decrease the number of advertisements per hour was a result of the adoption of Federal legislation restrictions: for example, in 2006 they were reduced to 12 minutes per hour, and a few years later they were up to nine minutes per hour (The number of advertisements on Russian TV reached a maximum, 2016). In commercials women's body standards are very far from the appearance of an average Russian woman (Sazonova & Volkova, 2014). The demonstration of unrealistic images of women in media leads to women's dissatisfaction with their bodies. In addition to that, the formation of cultural standards associated with a perfect figure ("tyranny of slenderness") may occur indirectly through relatives and friends, as well as in a case of anorexia (Perennial & Bordo, 2012) is through the medical staff.

Eating disorders are exacerbated with a self-representation in social networking. Previously a girl's inadequate perception of her own image

depended on her psychosomatic installations; the integration in social network makes the girl assess herself from the point of view of other people with unknown medical and psychiatric conditions (Bardina, 2016).

The motivations of eating behavior for men and women, generated by media, are different. Rejuvenation and slimness are the main motives for women, while for men the most preferable are physical strength, the social status, and the ability to perform their duties properly. These distinctions between men and women define the ways of their self-improvement. Most men to be fit choose such methods as going to the gym and taking special products to strengthen the body. For women it is important to combine physical activity with a diet.

### CONCLUSION

Information and communicative university environment is one of the most important factors influencing the food behavior practices of both boys and girls. The results of the research are allowed to draw the following conclusions.

Main causes of students' eating disorders are complex and require comprehensive studies. The prevalence of eating disorders among students is sufficiently large. The majority of respondents cannot see a direct connection between their food behavior, weight and body shape. Respondents note a variety of exceptions and give many examples when a person's appearance has little to do with his/her food behavior. The students' food behavior is not constant, it is changed dramatically depending on various factors, for example, the opinion of close social environment; meeting with other people; a temporary motive associated with a preparation for a particular event; state of love; situational factors such as watching movies or reading information about food, etc.

With one hand, students' eating disorders may occur casually as a result of their lifestyle which can contribute an inattentive attitude to their own health and the regimen of nutrition. On the other hand, it can occur deliberately, under the influence of a certain motive.

Mental stress leads to the regular alternation between periods of overeating and fasting,

which reduces the ability to assimilate complex educational material and provokes low self-esteem. Students' eating disorders highly correlated with negative emotional states, depression and other mental health problems that require the intervention of a psychologist or psychiatrist.

### REFERENCES

1. Agras, S., Hammer, L. & F. McNicholas, 1999. A prospective study of the influence of eating-disordered mothers on their children. *International Journal of Eating Disorders*, 25, (26): 253–262.
2. Bardina, S., 2016. Look, body and social interaction: the problem of distorted perception of one's own body in anorexia. *Sotsiologiyavlasti*, 1 (28): 42-46. (in Russian)
3. Birch, L.L., Fisher, J.O., Krahnstoeber, K., & K.K. Davison, 2003. Learning to overeat: maternal use of restrictive feeding practices promotes girls' eating in the absence of hunger. *The American Journal of Clinical Nutrition*, 2 (78): 215-220.
4. Bulik, C.M., 2014. Developmental disruption by binge-eating disorder and bulimia nervosa: critical windows for detection and intervention. *Epidemiology and Psychiatric Sciences*, 23: 43-45.
5. Carrard, I., Van der Linden, M. & A. Golay, 2012. Comparison of Obese and Nonobese Individuals with Binge Eating Disorder: Delicate Boundary Between Binge Eating Disorder and Non-Purging Bulimia Nervosa. *European Eating Disorders Review*, 5 (20): 350–354.
6. Domar, A., 2003. Harvard Medical School. *Parade Magazine*, October 11. Date Views 02.05.2017. URL: <https://www.anred.com/causes.html>.
7. Emelin, K.E., 2015. Eating disorders leading to overweight and obesity: classification and differential diagnosis. *Russkiy meditsinskiy zhurnal*, 29 (23): 12-15. (in Russian)
8. Kibitov, A.O. & G.E. Mazo, 2016. Look, body and social interaction: the problem of distorted perception of one's own body in anorexia.

- Sotsialnayaiklinicheskayapsihiatriya, 4 (26): 63-70. (in Russian)
9. Kopyitov, A.A., 2015. Technological management of the information and communication space of the Russian higher education institution as a factor of increasing the level of competitiveness. Orel, Rossiyskayaakademiyanarodnogohozyaystv vaigosudarstvennoysluzhbyipriPrezidente RF, pp. 22. (in Russian)
  10. Lenzenweger, M.F., 2006. The Longitudinal Study of Personality Disorders: History, design, and initial findings. *Journal of Personality Disorders*, 6: 645-670.
  11. Lipai, T., Volkova, O. & O. Gilenkova, 2015. The media in the formation of values and stigma from senior schoolchildren. *Sociologiyaobrazovaniya*, 10 : 71-75. (in Russian)
  12. Moskowitz, R., 2001. *Lost in the Mirror: An Inside Look at Borderline Personality Disorder*. Lanham, MD: Taylor Trade Publishing, pp: 224.
  13. Perennial, H. & S. Bordo, 2012. *Beyond the Anorexic Paradigm Re-Thinking Eating Disorders*. Turner B. S. (ed.) *Routledge Handbook of Body Studies*, London and N. Y.: Routledge, pp: 244-255.
  14. Sazonova, E. & O. Volkova, 2014. Public service advertising as a tool of promoting traditional family values in Russia. *VestnikVolgogradskogogosudarstvennogouniversiteta. Seriya 7: Filosofiya. Sotsiologiyaisotsialnyietehnologii*, 5: 43-59. (in Russian)
  15. Spielmans, G.I., Benish, S.G., & C. Marin, 2013. Specify city of psychological treatments for bulimia nervosa and binge eating disorder? A meta-analysis of direct comparisons. *Clinic Psychology Review*, 3 (33): 460-469.
  16. Theander S.S., 2002. Literature on eating disorders during 40 years: increasing number of papers, emergence of bulimia nervosa. *European Eating Disorders Review*, 10 (6): 386-398.
  17. Swanson, S.A., 2011. Prevalence and correlates of eating disorders in adolescents: Results from the national comorbidity survey replication adolescent supplement. *Archives of General Psychiatry*, 7 (68): 714-723.
  18. The number of advertisements on Russian TV reached a maximum, 2016. Date Views 05.05.2017. URL: <https://vc.ru/n/ad-tv-2015>. (in Russian)
  19. Volkova, O., 2013. Problems of transformation of professional culture in L.N. Maksimova monograph. *Trudisotsial'nyyeotnosheniya*, 12: 138-142. (in Russian).
  20. Bosov, D. & T. Petrunova, 2017. Western mainstream cinema preferences of the student youth. *Scientific bulletins of the Belgorod State University. Philosophy. Sociology. Law*, Vol. 3 (252): 34-37. (in Russian).
  21. Vangorodskaya, S.A., 2017. The ratio of self-preservation attitudes and behavioural activity in the field of health. *Scientific bulletins of the Belgorod State University. Philosophy. Sociology. Law*, Vol. 3 (252): 37-41. (in Russian).
  22. Allen, K., 2017. *Feminism and Women's Magazines*. Date Views 02.05.2017. URL: <http://www.feministezine.com/feminist/fashion/Diet-Grrl.html>.