

INFLUENCE OF LEARNING STRESS ON THE DEVELOPMENT OF ASTHENIC SYNDROME IN MEDICAL STUDENTS

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Key words: academic stress, asthenia, medical students, addictive behavior.

Tayanch so'zlar: akademik stress, asteniya, tibbiyot talabalari, giyohvandlik harakati.

Ключевые слова: академический стресс, астения, студенты-медики, аддиктивное поведение.

The aim of the work was to study the mental health of university students and assess the prevalence of symptoms of asthenic syndrome. Materials and methods. The study involved 270 students (160 boys and 110 girls) of the III and V courses of the pediatric and medical faculty at the age of 19-28 (22.0 ± 1.3) years. The main research methods were medical and sociological (anonymous survey using the author's questionnaire, which includes a block of socio-demographic data and some information about lifestyle). Results. It was found that the greatest academic stress was caused by a large study load, irrational class schedule, strictness of teachers, lack of textbooks, living away from parents and difficulties in organizing the daily routine. The most significant manifestations of stress were affective and psychosomatic disorders, as well as attention disorders. The clinical structure and factorial significance of stress symptoms indicate a high risk of developing psychosomatic disorders. The possibilities of stress management, prevention of psychosomatic disorders and suicidal behavior are discussed.

TIBBIYOT TALABALARIDA ASTENIK SINDROMIN RIVOJLANISHIGA O'QISH STRESSINING TA'SIRI

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Ishning maqsadi universitet talabalarining ruhiy salomatligini o'rganish va astenik sindrom belgilarining tarqalishini baholash edi. Materiallar va uslublar. Tadqiqotda pediatriya va tibbiyot fakulteti III va V kurslarining 19-28 ($22,0 \pm 1,3$) yoshdagi 270 nafar (160 nafar o'g'il va 110 nafar qiz) talabalari ishtirok etdi. Asosiy tadqiqot usullari tibbiy va sotsiologik edi (ijtimoiy-demografik ma'lumotlar bloki va turmush tarzi haqida ba'zi ma'lumotlarni o'z ichiga olgan muallifning so'rovnomasi yordamida anonim so'rov). Natijalar. Ma'lum bo'lishicha, eng katta akademik stressga katta o'quv yuk, mantiqsiz dars jadvali, o'qituvchilarning qattiqqo'lligi, darsliklarning etishmasligi, ota-onadan uzoqda yashash va kundalik tartibni tashkil etishdagi qiyinchiliklar sabab bo'lgan. Stressning eng muhim ko'rinishlari affektiv va psixosomatik kasalliklar, shuningdek diqqatning buzilishi edi. Stress belgilarining klinik tuzilishi va omilli ahamiyati psixosomatik kasalliklarni rivojlanish xavfi yuqori ekanligini ko'rsatadi. Stressni boshqarish, psixosomatik kasalliklar va o'z joniga qasd qilish xatti-harakatlarining oldini olish imkoniyatlari muhokama qilinadi.

ВЛИЯНИЕ УЧЕБНОГО СТРЕССА НА РАЗВИТИЕ АСТЕНИЧЕСКОГО СИНДРОМА У СТУДЕНТОВ-МЕДИКОВ

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Целью работы явилось изучение психического здоровья студентов вузов и оценка распространенности симптомов астенического синдрома. Материалы и методы. В исследовании приняли участие 270 студентов (160 юношей и 110 девушек) III и V курсов педиатрического и лечебного факультетов в возрасте 19-28 ($22,0 \pm 1,3$) лет. Основными методами исследования были медико-социологический (анонимный опрос с использованием авторской анкеты, включающей блок социально-демографических данных и некоторую информацию об образе жизни). Полученные результаты. Установлено, что наибольший учебный стресс вызывают большая учебная нагрузка, нерациональный график занятий, строгость учителей, отсутствие учебников, проживание вдали от родителей и трудности в организации распорядка дня. Наиболее значимыми проявлениями стресса были аффективные и психосоматические расстройства, а также нарушения внимания. Клиническая структура и факторная значимость симптомов стресса свидетельствуют о высоком риске развития психосоматических расстройств. Обсуждаются возможности управления стрессом, профилактики психосоматических расстройств и суицидального поведения.

Introduction. In the last decade, the problem of studying the mental health of university students has become increasingly relevant [1]. The results of studies conducted in different countries indicate that students are more likely than the general population to have symptoms of depression, anxiety and distress [2].

Academic stress is considered as the cause of disorders, which negatively affects students, reduces life satisfaction, working capacity and general health [5], causes anxiety and depression, which, in turn, correlate with the risk of developing a wide range of somatic pathologies [3] and psychosomatic disorders, enhance suicidal ideation in these individuals [8].

The most vulnerable in this regard are medical students, whose academic workload is on average 2 times higher than that of students from other universities [6]. Thus, the prevalence of

chronic stress, the main source of which is educational factors, among medical students ranges from 38 % to 62 % [9]. At the same time, in order to cope with stress, they start drinking alcohol, smoking tobacco, which turns out to be ineffective and does not reduce the high prevalence of psychosomatic complaints and suicidal experiences in these people, which occur in more than half of the students - physicians. The activities of medical students are among the emotionally intense types of work, since their academic load is on average twice as high as in non-medical universities [4], which is reflected in the level of their mental and somatic health [2]. The main stress factors that arise in the process of studying clinical disciplines include a large amount of teaching load, uncertainty about one's own professional qualities and a significant amount of effort required to complete homework [1], these factors often lead to stress-induced disorders [9].

According to the medical students themselves [4], the most stressful for them are a large study load, fear of the future, unwillingness to study or disappointment in the profession and significant stressful situations are the periods of the session and passing exams [8]. In general, a high level of mental and psycho-emotional stress, strict organizational requirements, frequent violations of the regime of work, rest and nutrition, repeated stressful situations of tests and exams lead to a breakdown in the processes of mental adaptation in students of medical specialties [1], that can be one of the reasons formation of social stress mental disorders.

The greatest stress among students was caused by pressure from teachers.

A high level of academic stress reduces life satisfaction, negatively affects general health and academic performance [6] and leads to the fact that the vast majority of medical students (83 %) have suicidal thoughts (66 % often and 17 % rarely). At the same time, the risk of suicide among medical students is associated with a high level of mental and physical stress that increases during the session, lack of time, the need to learn a large amount of information in a short time, increased requirements for solving problem situations, which leads to mental maladaptation and manifests itself as anxiety-depressive disorders. [3].

In general, there are many factors that cause academic stress in all medical students [Khan J.M. et al., 2013]. The most significant among them are the following:

1. High study load is considered the main source of stress for medical students. In turn, a high level of stress significantly reduces life satisfaction, negatively affects health and academic performance [9].

2. Pressure from teachers and relatives, fierce competition among fellow students, large volumes of educational material, increased workload during the session, lack of time to repeat material, fail in disciplines, getting lower grades, a long period of study, working with cadaveric material, a rigid daily routine, as well as the inability to plan one's time and lack of self-discipline, incorrect prioritization and disappointment in the future profession [5].

3. Academic achievement. It has been established that the higher academic performance, the higher the level of stress [4], and satisfaction with learning outcomes affects students' mental health. Students with high academic performance are characterized by a lower level of psychological health and quality of life compared with students with low academic performance [5]. In general, the health status of medical students is lower than of peers' studying in the humanities and technical specialties.

4. Exam session. It is the peak of mental overload and a strong stressful situation. Exams were rated as high stress by 63.1% of all students. Mental health problems among students were mostly associated with stressful experiences during exams and contacts with teaching staff. The negative impact of examination stress was reflected primarily in such parameters as general well-being and mood [8].

5. Social and financial problems, health problems or academic difficulties are important stress factors.

6. Irregular attendance at classes. It has been established that students who miss classes are more stressed, which affects not only their academic success, but also all aspects of health.

7. Contacts with terminally ill patients in clinical departments. It was found that the level of stress during clinical practice correlated significantly with the care of terminally ill patients. And in general, interaction with patients without proper preliminary preparation is also a stress factor.

8. Lack of time to complete all tasks, anxiety about evaluating the effectiveness of the work performed and frequent changes in requirements[3].

9. Feeling helpless in the face of illness and death.

Purpose of the study was to explore the mental health of university students and to assess the prevalence of symptoms of asthenic syndrome.

Materials and methods. The study involved 270 students (190 boys and 80 girls) of the III and V courses of the pediatric and medical faculty at the age of 19-24 (21.0±1.3) years. The main research methods were

Medical and sociological (anonymous survey using the author's questionnaire, which includes a block of socio-demographic data and information about lifestyle).

Psychometric: test for educational stress Yu.V. Shcherbatykh, stress resistance self-assessment test, a method for rapid diagnosis of the level of personal frustration by V.V. Boyko, the Hospital Anxiety and Depression Scale (HADS), the author's "Test screening for the diagnosis of mental disorders", developed on the basis of the ICD-10 research criteria.

Statistical: descriptive statistics, non-parametric Mann-Whitney test for comparing two independent variables, correlation (Spearman's rank correlation coefficient) and factorial (principal components method with varimax factor rotation) analysis.

Research results and discussion. An analysis of socio-demographic data showed that the majority of students - 210 (77.7 %) - before entering the Medical University lived in an urban-type settlement and rural areas, the others 60 (22.3 %) in the city, respectively. 89 (32.9 %) people had bad habits. At the same time, 13.1 % used beer and low-alcohol drinks, 19.8 % - nicotine addiction. 52 (19.2 %) students had an established diagnosis of a somatic disease in their anamnesis.

Factor analysis of the variables that form educational stress made it possible to identify 8 significant factors influencing the formation of stressful tension among students (Table 1).

As can be seen from the table, the greatest academic stress was caused by living away from parents, problems in personal life, lack of textbooks and a large study load, as well as the strictness of teachers, biased grades, shyness and problems in the hostel.

Factor analysis of stress manifestation symptoms in students revealed 4 factors explaining the occurrence of educational stress (Table 2).

An analysis of the results of the Hospital Anxiety and Depression Scale showed (fig. 1) that

Table 1.

Academicals stress-factors in the medical students.

№	Factor name	%
1	Living away from parents	21.6%
2	Problems in personal life	18.4%
3	Lack of textbooks	8.7%
4	Large study load	9.7%
	Plenty of preparation time	
5	The severity of teachers	8.7%
	The rudeness of teachers	
6	Biased estimates	4.1%
7	Shyness	9.6%
8	Problems in the hostel	12.5%

Table 2.

Factors of the manifestation of educational stress in the first year medical students.

№	Factor	%
1.	Affective disorders	37%
	Depression	
	Anxiety	
	Loss of confidence	
2.	Psychosomatic disorders	10.4%
	Tachycardia	
	Labored breathing	
3.	Rush	7.5%
4.	Attention disorders	7.3%
	Distractibility	
	Extraneous thoughts	

the majority of students - 68.2 % - had anxiety, and 29 % had a clinical level. In 11 % of cases, symptoms of depression were detected, the level of which in 3.2 % qualified as clinical.

The method of express diagnostics of the level of personal frustration V.V. Boyko found that in 50.2 % of cases there was a steady tendency to frustration (in the remaining 48.2 %, the level of frustration was low).

The self-assessment test of stress resistance by S. Cohen and G. Williamson showed that only in 31.9 % of cases stress resistance was defined as good and satisfactory, in the remaining 62.6 % and 5.4 % it was classified as poor and very poor, respectively.

The vast majority of students - 246 (91 %) - had asthenia, which in 178 (75.6 %) cases was classified as moderately severe. In 78 (51.3 %) cases it was combined with severe emotional lability, in 75 (48.1 %) cases with attention disorder, in 82 (52.6 %) cases with autonomic instability. In 204 (87.3 %) students, asthenia was combined with various sleep disorders.

In 168 (80.1 %) cases, individual symptoms of autonomic instability were found, combined with asthenia, in 17 (9.4 %) cases - reaching the clinical level of somatoform autonomic dysfunction (cardiovascular system - 7 %, respiratory - 3.5 %, 2.1 % - digestive), in 4 (1.6 %) - subclinical level. In half of the cases, the symptoms of somatoform autonomic dysfunction were combined with mild symptoms of hypochondriacal disorder.

In 83 (29.3 %) cases, individual symptoms of social phobia were found, which in 36 (18.8 %) cases were mild and hindered social functioning. In 15 (9.0 %) cases, symptoms of dysthymia were diagnosed, combined with subclinical 8 (4.8 %) and clinical 7 (4.2 %) levels of depression according to the HADS scale. Nightmares were observed in 125 (71.7 %) students, and night terrors in 34 (15.7 %). The so-called sleep paralysis was in 31 (18.7 %) people, was observed from 1 to several times a year in 25 (80.6 %) students, 1 time per month occurred in 3 (9.7 %) people, once a week - in two (6.5 %), several times a week - in 1 (3.2 %) person.

Conclusion. Thus, as a result of the study, it was found that the greatest educational stress among medical students of the first year of study was caused by: a large study load, irrational class schedule, strictness of teachers, lack of textbooks, living away from parents and difficulties in organizing the daily routine. The most significant manifestations of stress were affective and psychosomatic disorders, as well as attention disorders. The clinical structure and factorial significance of stress symptoms indicate a high risk of developing psychosomatic disorders. Destructive ways of coping with stress prevailed: drinking alcohol, smoking, overeating, taking sedative drugs. These approaches to coping with stress can be a factor in the formation of addictive and dependent behavior. To prevent the states of socio-psychological maladjustment, a high level of anxiety, the development and implementation of a differentiated stress management program is required, the following techniques can be used:

1. Inform students about stress and teach how to overcome it and adapt. In a broader context (methods of resolving conflicts, overcoming auto- and hetero-aggressive tendencies, methods of relaxation, etc.).

2. Teach students to plan their time competently, use methods of optimal independent work with educational literature, develop self-presentation skills and awareness in the stages of building a career.

3. Inform about a healthy lifestyle, take into account biorhythms, daily routine and dietary habits, about destructive methods of dealing with stress (in the aspect of addiction prevention).

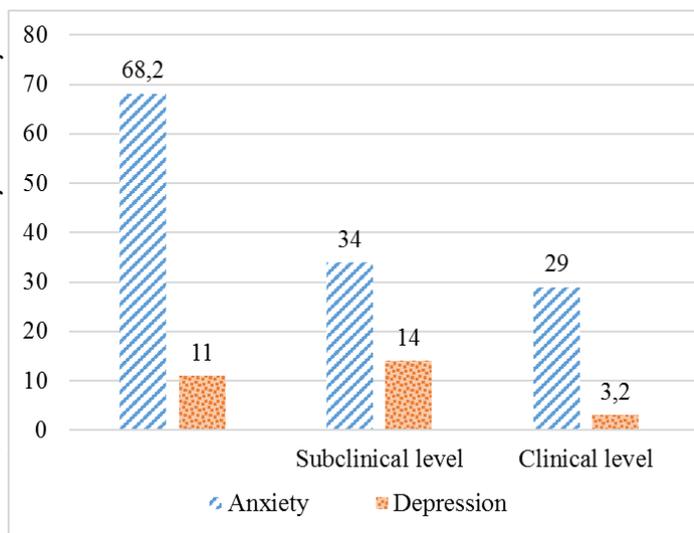


Fig. 1. Distribution of respondents by the level of anxiety and depression

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