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STUDY OF FACTORS OF STRESS FORMATION AMONG FIRST YEAR MEDICAL STUDENTS AND ITS INFLUENCE ON MEMORY PROCESSES. RECOMMENDATIONS FOR STRESS REDUCING AND MEMORY IMPROVING AMONG STUDENTS

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Summary.

To identify the psychological characteristics of the stress response among medical students 77 first-year students of School of Medicine of V.N. Karazin Kharkiv National University (24 boys and 53 girls) aged from 16 to 23 years were examined. The data analysis revealed that students of the first year feel the education process as the strong intellectual and emotional overload. The most pronounced causes of stress were allocated: among young men – lack of textbooks, and among girls – inability to organize their daily routine, shyness and timidity. The most powerful factors in the formation of stress disorders among all students, regardless of gender are presented by irregular meals and a large workload. Indicators of meaningful and mechanical memory among girls were mostly higher than those among boys. This may indicate that women are more attentive and are better able to focus on the learning activity process. An algorithm of recommendations for providing comprehensive assistance to students in stress reducing and memory improving has been developed.

Key words:

stress formation factors, memory, medical students, disadaptation, recommendations, stress reducing, memory improving.

Introduction

Experiences of stress in training and, especially, in the examination period for any student is usual. The ability to cope with stress is the key to success in all educational activity. Unfortunately, not everyone can overcome stress and it often leads to deterioration of memory processes [1]. More pronounced level of stress among students of medical schools is identified: medical students consequently suffer from depression, anxiety, and stress [2–7].

Purpose and objectives of the study

Study of the stress factors formation and stress resistance in first-year medical students, and characteristics of its influence on memory processes are provided.

Research objectives:

1. To substantiate the influence of stress factors on the memory processes.
2. To identify the characteristics of the stress causes among students of the 1 year.
3. To determine the level of logical (semantic) and mechanical memory among the first-year students.
4. Highlight the main recommendations for students to overcome the stress and improve memory.

Materials and methods

To identify the psychological characteristics of the stress response among 77 first-year medical students of School of Medicine of V. N. Karazin Kharkiv National University (24 boys and 53 girls) aged from 16 to 23 years were examined to determine the academic stress by a test developed by U. V. Shcherbatyh. This test allows you to specify the main causes of academic stress, identify the symptoms of stress and the main stress reduction techniques by students [2]. All students were considered as healthy people.

Processing of the results was performed using Microsoft Office XL 2010 Software [8].

Results of research and discussion

The study has revealed that students of the first year feel the education process as the strong intellectual and emotional overload. Emotional stress has been especially worsened due to long exam expectation, too demanding teacher, complicated subjects and tight time limits. But, on the other hand, cases of emotional and constructive behavior under stress have been identified when the students have been experiencing increased intellectual activity, did not feel strong emotional

experiences, but only were focusing their attention on the existing problem. Thus, short and not strong stress can sometimes even "spur" the ability to remember, but if stress becomes prolonged, it will definitely have negative impact on the memory.

When studying the students' using the academic stress test, the most pronounced causes of stress have been allocated: among young men – lack of textbooks, and among girls – inability to organize their daily routine, shyness and timidity. The most powerful factors in the formation of stress disorders among all students, regardless of gender, were irregular meals and a large workload.

Features of the causes of stress among medical students of both genders are given in Table 1.

Table 1

Features of the causes of stress (UV ShCherbatyh questionnaire)

Scales	First year students	
	F (n=53)	M (n=24)
	Number of respondents (%)	
Large academic load	28	25
Fear of the future	13	8
Unwillingness to learn	0	0
Incomprehensible textbooks	4	8
Finance limitation	11	17
Strict teachers	8	0
The problems in private life	21	8
Irregular meals	36	25
Inability to organize the daily regime	38	17
Shyness and timidity	28	17
Overly serious attitude to study	17	8
Lack of textbooks	23	25
Living far away from parents	19	13
The conflict in the group	8	4
The problem of living together with other students	2	4

It should be noted that the girls had lower factor "problem of living together with other students", which proves the better adaptation possibility of females in the social environment and a lighter adaptability when working in a group.

Research of the logical (semantic) and mechanical memory has showed that the

average value of the logical (semantic) memory index among both girls and young men was higher than average mechanical memory index. But at the same time, it was revealed as an interesting fact that all indicators of meaningful and mechanical memory among girls were mostly higher than those among boys. This may indicate that women are more attentive and are better able to focus on the learning activity process (Table 2).

Table 2

Table of average index of semantic and mechanical memory (in points)

Students	Index of semantic memory		The index of mechanical memory	
	F	M	F	M
1 st course (M±m)	0,93±0,01	0,89 ±0,03	0,67±0,02	0,57±0,06

Based on the study, we can conclude that all students in the learning activities are subject to strong emotional experiences, which have a profound influence on the memory processes and the cognitive sphere in general.

A large workload and a wrong mode of the day contribute to the students' chronic stress state development. And it should be noted that, according to the study, girls cope with the stress state much faster and are better able to adapt to any type of activity than young men.

Conclusions

Based on the results of the research, as well as on the basis of personal experience with students of this profile of disorders [9], the authors of the article developed an algorithm of recommendations providing comprehensive help to students to reduce stress and improve memory.

Recommendations for reducing stress and improving memory:

- **students need** to keep the day regime, to monitor sleeping, rest and nutrition; to plan properly educational activities and independent work; to engage actively in sports, visit sports grounds and gyms; to take part in students' research and study teams; to use memory training techniques such as "names and faces", "words", "poetry" and the most important recipe is – every day, being in different places, to make a conscious effort to memorize something;

- **parents need**, no matter how far their child leaves, not to lose contact with him/her, to support morally, to be interested

in his/her affairs; to inspire optimism and belief in success; to perceive him as an independent person;

– **tutors of groups need** to be more attentive to this category of students, to the changes that occur with them, especially if they are first-year students. To assist in the process of adaptation, to carry out actions that improve the psycho-physical development, health promotion; to work for the prevention of deviant behavior, bad habits; to monitor the attendance, with the identification of passes without valid reasons; to monitor academic progress; to be sure to involve these students in collaboration with other students to form a positive emotional

connections between them and the members of the study group; to promote self-education and self-development of personality;

– **psychologists** should timely conduct psychological counseling to determine the main sources of disadaptation; to involve students to participate in socio-psychological training aimed at improving communication skills, in formation of adequate self-esteem, raising the level of social intelligence.

Compliance with the above recommendations will contribute to the improvement of socio-psychological adaptation and formation of a successful personality, – the future specialist in the field of educational and labor activities.

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ВИВЧЕННЯ ФАКТОРІВ ФОРМУВАННЯ СТРЕСУ І ЙОГО ВПЛИВ НА ПРОЦЕСИ ПАМ'ЯТІ У СТУДЕНТІВ-МЕДИКІВ І КУРСУ. РЕКОМЕНДАЦІЇ ЩОДО ЗНИЖЕННЯ СТРЕСУ І ПОЛІПШЕННЯ ПАМ'ЯТІ У СТУДЕНТІВ

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Анотація. Для визначення психологічних характеристик відповіді на стрес серед студентів-медиків було обстежено 77 студентів I курсу медичного факультету Харківського національного університету імені В. Н. Каразіна (24 юнака та 53 дівчини віком від 16 до 23 років). Дослідження показало, що для першокурсників навчання стає сильним інтелектуальним і емоційним перевантаженням. Під час роботи визначені найбільш яскраво виражені причини стресу. Виявилось, що для юнаків це відсутність підручників, а для дівчат – нездатність організувати свій розпорядок дня, сором'язливість і боязкість. Найпотужніші чинники у формуванні стресових розладів серед усіх студентів, незалежно від статі, – нерегулярний прийом їжі та велике навантаження. Показники смислової і механічної пам'яті серед дівчат були в основному вище, ніж серед юнаків. Це може свідчити про те, що дівчата більш уважні та здатні краще зосереджуватися на процесі навчальної діяльності. Розроблено алгоритм рекомендацій з надання всебічної допомоги студентам з подолання стресу і поліпшення пам'яті.

Ключові слова: фактори формування стресу, пам'ять, студенти-медики, дезадаптація, рекомендації, зниження стресу, поліпшення пам'яті.

ИЗУЧЕНИЕ ФАКТОРОВ ФОРМИРОВАНИЯ СТРЕССА И ЕГО ВЛИЯНИЕ НА ПРОЦЕССЫ ПАМЯТИ У СТУДЕНТОВ-МЕДИКОВ I КУРСА. РЕКОМЕНДАЦИИ ПО СНИЖЕНИЮ СТРЕССА И УЛУЧШЕНИЮ ПАМЯТИ У СТУДЕНТОВ

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Аннотация. Для определения психологических характеристик реакции на стресс среди студентов-медиков было обследовано 77 студентов I курса медицинского факультета Харьковского национального университета имени В. Н. Каразина (24 юноши и 53 девушки в возрасте от 16 до 23 лет). Исследование показало, что для первокурсников обучение является сильной интеллектуальной и эмоциональной перегрузкой. Кроме этого, выявлены наиболее ярко выраженные причины стресса. Оказалось, что для юношей это отсутствие учебников, а для девушек – неспособность организовать распорядок дня, застенчивость и робость. Наиболее мощные факторы в формировании стрессовых расстройств у всех учащихся, независимо от пола, – нерегулярный прием пищи и большая нагрузка. Показатели смысловой и механической памяти среди девушек были в основном выше, чем среди юношей. Это может свидетельствовать о том, что девушки более внимательны и способны лучше сосредоточиться на процессе учебной деятельности. Разработан алгоритм рекомендаций по оказанию всесторонней помощи студентам для преодоления стресса и улучшения памяти.

Ключевые слова: факторы формирования стресса, память, студенты-медики, дезадаптация, рекомендации, снижение стресса, улучшение памяти.

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