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CONTENTS

FEATURES OF ADAPTATION REACTIONS OF ORGANISM OF STUDENTS, WHICH DEPEND ON THE PRESENCE OF CHRONIC DISEASES IN ANAMNESIS

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ABSTRACT

In the article the results of research and authentication of character of adaptation reactions are reflected in 515 students of the second course of stomatological and medical faculties of the Kharkiv national medical university. Conducted differentiation and analyzed features of adaptation reactions for students with chronic diseases in anamnesis. It is set that in 84,9 % of students with chronic diseases in anamnesis the nonspecific adaptation reaction of organism is a reaction of activating. The reaction of an increase activating prevailed at the far of these students. The reaction of the quiet activating was observed in 36,21 % of students with chronic diseases in anamnesis. Certain character of nonspecific adaptation reactions after the index of Harkavy`s and conducted estimation of levels of reactivity on shown of signs of tension in leucocyte formula. Depending on the types of nonspecific adaptation reactions the inspected students have certain features of adaptation therapy.

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Introduction. Modern world society experiences the period of global changes. Present time is characterized by illnesses, that first of all have an influence on forming of adaptation reactions of organism of man, that provide possibility of his existence in the changeable terms of environment. From global structural and social changes in society the young generation that not in a complete measure adjusted to the "changeable «environment suffers first of all. The students of medical institutions contain high level of intellectual skills among young people, prosperity of citizens and future of country depend in a great deal from them. Studies in medical "higher establishments" require large tension of all systems of organism. The problems related to the change of social environment appear for these students, namely: absence of domestic surroundings, residence in a dormitory; change of usual way of life, that inherent reduction of duration of dream, ill-timed and inferior meals, reduction of motive activity and others [7,8]. Most of all these factors have an influence on students which have chronic diseases. Therefore extraordinarily important is a problem of exposure of features of adaptation reactions of this contingent of students, prognostication of level of adaptation and warning of influence of those factors of educational process, that result in reduction of functional backlogs to the organism of these students. To the study of general adaptation reactions of man, exposure of early signs of disadaptation and origin of pathological processes numeral works of

prominent scientists and researchers were devoted: Ch. Darvin (1872), K. Bernar (1853), I. Pavlov (1900), W. Cannon (1927), A. Speranskyi (1936), A. Ukhtomskyi (1922), P. Anokhin (1973) etc. Conceptions of stress quickly enough influenced and gave a new push to psychological researches. American psychologist R. Lazarus, (1970) developing studies about stress, pulled out the cognitive theory of stress, according to that he conducted differentiation of stress on the physiology stress related to the real irritant (physical is cold, warm), and psychological (emotional) stress at that man on the basis of individual experience and knowledge estimates a situation and reacts accordingly.

Home researchers spared much attention to the reactions of adaptation and displays of the states of disadaptation. As we can see, forming of conception of stress found the reflection in a number of theories and models, some of them fully left after the lack of need: theory of the functional systems of P. Anokhin (1970), theory of stress and disstress of H. Selie, adaptation reactions of organism, that was studied by F. Meerson (1981) and associates and many others.

Development of theory of stress and adaptation reactions of organism was got by continuation in works of L. Harkav`ys, O. Kvakina, M. Ukolova (1990), that worked out the theory of nonspecific adaptation reactions of organism (NARO) [3]. On the basis of complex of adaptation reactions of organism, that is estimated after L. Harkav`ys together with coauthors.

[3-4], distinguish four variants: satisfactory adaptation of organism to the terms of environment (reaction of training and quiet adaptation); tension of mechanisms of adaptation (reaction of an increase activating); insufficient (unsatisfactory) adaptation and blowing off adaptation (sharp and chronic stress and reaction of reactivation) (L. Harkav`ys - 1969; O. Kvakina, M. Ukolova - 1969; B.Dykyi and coauthors, 2013). Much attention to the reactions of adaptation and displays of the states of disadaptation was spared by home researchers. Based on developments of L. Harkavy`s on the walks of life of the former USSR by scientists studies of NARO were undertaken at separate diseases [1, 6], persons of different professions, in particular doctors [2] students of educational establishments [7, 8], offered different programs and methodologies of correction of displays of disadaptation [10], all these played an important role in forming of effective adaptation reactions of organism. Modern researches of stress are answers to the organism for stress stimuli - embrace wide disciplines, from genetics to endocrinology and visualization of brain [11, 175]. However, in spite of much numeral researches of problems of adaptation, individual adaptation reactions of organism at chronic illnesses, as to the factor of increase resistance, for the students of higher educational establishments on the whole and in institutions of higher learning of medical profile in particular, remain out of eyeshot researchers.

Materials and methods. With the aim of study and comparison of adaptation reactions of students we on the draught of school year (September-June), with the observance of principles of medical deontology and bioethics inspected 515 students of the second course of the Kharkiv National Medical University - boys and girls in age from 22 to18 years. Gender distribution among the students of the second course testified to predominating of girls: 388 (75.3%), boys: a 127 (24.7%) correlation 3: 1. Students with chronic illnesses in anamnesis – 258, it means 50.09% from all.

Separately there were the distinguished students with the presence of neurocirculatory dystonia (NCD) in anamnesis. Gender distribution of students with chronic diseases in anamnesis is given in a table 1.

Table 1. Gender distribution of students is with chronic diseases in anamnesis

	An amount of students n=515		Males(n=127)*		Females (n=388)	
	abs.	% ±0,4	abs.	%±0,5	abs.	%±0,3
Chronic diseases	232	45,04	49	38,58	183	47,16
CPN	26	5,05	9	7,08	17	4,38
Total	258	50,09	58	45,66	200	51,54

For the estimation of character of adaptation reactions of organism there was the used methodology of L. Harkavy`s and coauthors [4]. To that end for students investigated the cages of peripheral blood. The types of NARO were determined on alarm indexes in a leucocyte formula and estimated by means of tables, worked out by L. Harkavy`s, O. Kvakina, taking into account practical recommendations of F. Stupin and O. Tatkov (1998). As an alarm index of adaptation reactions percent content of lymphocytes was select in the leucocyte formula of peripheral blood.

This alarm index was taken as major criterion for determination as of adaptation reactions. After the percentage of lymphocytes in a leucocyte formula distribution of types of NARO was conducted in accordance with the age-old indexes of adaptation reactions after the tables of L. Harkavy`s.

Stress – <20%, training – 20–27,5 %, the quit activating is 28-34%, the increase activating-34,5 – 44%, reactivation – > 44%. The tense reaction after the index of Harkavy`s, namely: relation of lymphocytes to the amount of segmented neutrophils in peripheral blood. Taking into account of index of Harkavy`s gave possibility to distribute adaptation reactions into adequate and tense. [3, 4] The statistical processing of the obtained data was conducted with determination of averages (M), standard error middle (m), by the estimation of authenticity of divergences by means of automatic calculation of U- of criterion of Mann-Whitney, from p 0,01.

Research results. The analysis of the obtained research data showed in 197 (84,9%) of examined students that had chronic diseases in anamnesis, most widespread type of adaptation reactions – reaction of activating (RA), including the reaction of the quiet activating (RQA) was observed for a 42,64% (84 persons) students, and reaction of an increase activating (RIA) - 113 (57,36%) students with chronic diseases in anamnesis. Working out in detail of types of NARO for students with the presence of chronic diseases in anamnesis is given in a table 2.

Table 2. Types of NARO for students with the presence of chronic diseases in anamnesis

Types of NARO	An Amount of Students (n=232)		Males (n=49)		Females (n=183)	
	abs.	%	abs.	%	abs.	%
Stress	3	1,3	-	-	3	1,64
Training	25	10,77	5	10,20	20	10,93
Activating	197	84,91	44	89,80	153	83,61
1.Quit	84	42,64	21	47,73	63	41,18
2.Increase	113	53,36	23	52,27	90	58,82
Reactivating	7	3,02	-	-	7	3,82
Total	232	100	49	100	183	100

Testify the analysis of the obtained data, that adaptation reactions of stress and wears away activating observed exceptionally for girls and were absent for boys. The results of our researches confirmed, that the persons of sex of women "found out the higher level of disorders of adaptation"(V. Viun, 2015). Predominance of reactions of activating in 84,91% of students shows active nonspecific resistances of the protective systems of organism of these students (L. Harkavy`s, O. Kvakin – 1990, 1995, 1996).

Reaction of stress and wears away activating observed accordingly in three and seven students-girls. The index of Harkavy`s for the inspected girls on a type NARO "stress" folded - 0,2, that witnessed the harmonious level of reactivity. The detailed analysis of content of uniform elements of peripheral blood for seven girls on a type NARO "wears away activating" showed a decline to content of the segments of nucleus leucocytes (The index of Harkavy`s equaled 1,1 – 1,4), that allowed to do supposition in relation to the presence of reactivity of the first degree of tension.

Make an example of analysis and determination on alarm indexes as a nonspecific adaptation reaction after nonleucocytes formula at one of the inspected students. Content of lymphocytes in a leucogram – 15, the segmented neutrophils – 77, the stab – 3, eosinophils – 1, monocytes – 4. A common amount of leucocytes is 11,2 × 10 /l, ESR is a 30 mm/h. Index of Harkavy`s – 0,2. On the alarm index of percent amount of lymphocytes (15) of NARO "stress" behaves to the type with absence of tension of reaction. Analysing a leukogram it is possible to assume possibility of intensifying of chronic process.

Conclusions. Thus, a study and estimation of features of adaptation reactions of organism depending on the presence of chronic diseases in anamnesis for the students of the second course of the Kharkiv national medical university establish predominating of reactions of activating with predominance of reaction of an increase activating. Taking into account the flow of illness and type of

NARO it is expedient to appoint activating therapy that, undoubtedly, will promote efficiency of traditional methods of treatment.

1. For students with the presence of chronic diseases in anamnesis by a type NARO "activating" the major line of curatively-rehabilitation measures must be an increase of motive activity. The special role for proceeding in their capacity is played by active rest.

2. Except specific treatment with the aim of maintenance of capacity of students on a type NARO "activating wears" away it is expedient to conduct an activating prophylaxis adapt genes or other biostimulators of natural origin. Useful controlled physical activities are dosed. Sanatorium-resort treatment appears effective.

3. Tactics of activating therapy of girls on a type NARO "stress" are individually neat activating therapy. Physical activities rhythmic and dosed, in default of heavy disease and bed mode, substantially will promote efficiency of activating therapy.

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