

THE INFLUENCE OF VARIED LEVEL OF PERSONAL ANXIETY ON THE ADAPTIVE CAPACITY OF STUDENTS

P. Spiridovich, O. Ablekovskaya

*Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus
pspiridovich@mail.ru*

The effect of the level of anxiety on the adaptive capacity of students during the examination session was studied. The results of the study showed the interrelation between the adjustment level and the anxiety level of students.

Keywords: adaptive capacity, anxiety, students.

Adaptation has an individual character, which largely determines the degree of its impact on the student's personality, his health, success in acquisition of new material, social interaction, etc. The impairment of adaptation mechanisms is able to make it difficult for students to adapt to the learning process and cause unfavorable alterations in the body, leading to health deterioration. One of the main criteria for the inability to adapt is the increased level of anxiety.

The purpose of the study is to examine and evaluate the adaptive capacity of the circulatory system of students with different anxiety levels during the examination session.

To collect the necessary information the Spielberger – Khanin anxiety scale was used. It is designed to identify the anxiety state and uneasiness as treats of personality and is based on a subjective assessment of the person's own experiences, sensations, and actions. The calculation of the adaptive capacity of the circulatory system was carried out considering the body weight, height, age, pulse rate and blood pressure. Using the scale, the adaptation level was assessed. Thirty virtually healthy third year students of ISEI BSU took part in the study.

According to the Spielberger – Khanin tests, the students examined were divided into 3 groups according to the level of trait anxiety: low (3 %), medium (43 %) and high (53 %). In addition, the level of state anxiety was assessed. Thus, 63 % of students have an average level and 30 % of students have a high level of this indicator, which is quite expected and can be explained by the reaction of young people to such a social and psychological stressor as a session. The assessment of the degree of adaptation of organism to the identified adaptive capacity showed that 43 % of the test subjects had satisfactory adaptation, 56 % of the test subjects had the tension of the adaptation mechanisms, poor adaptation and adaptation breakdowns were not identified. At the same time, the students with a high value of the adaptive capacity tended to have high values of the level of trait anxiety.

Thus, the results of the study showed that the adaptive capacity depends on the level of trait anxiety. A high level of trait anxiety affects not only the quality of communication, social-psychological indicators of performance efficacy, relationships with friends, conflicts, but also autonomic and somatic functions, which can contribute to the development of health problems.

THE PARAMETERS OF CARDIAC RHYTHM IN INDIVIDUALS OF DIFFERENT AGE UNDER THE INFLUENCE OF PHYSICAL ACTIVITY

M. Stepanyuk¹, V. Lemiasheuski¹, T. Kalenchuk²

*¹Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus*

*²Polessky State University, Pinsk, Republic of Belarus
mihail.stepanyuk.19@mail.ru*

The research of the regularities of the adaptation's process of the organism associated with environment change is one of the most important problems of modern physiology and medicine. The given theme is actual nowadays, as it promotes the development of sports, helps to reach or improve sports achievements. The obtained results are used for the prevention and treatment of many diseases; allow us to identify opportunities for physiological mechanisms.

Keyword: physical activity, adaptation, cardiovascular system, blood pressure, heart rate, evaluation.

In everyday life people often subject themselves to loads of various kinds. One of the types is physical activity. In this research, we will talk about the effect of physical exertion on the parameters of the heart rhythm [1].

Adaptation of the body to physical loads consists of the mobilization and use of the functional reserves of the body, of the improvement of the existing physiological mechanisms of regulation. The basis of phenotypic adaptation is acquired by the mechanisms obtained by everyone in the process of daily life (ontogeny). There are two stages of adaptation – urgent and long-term. Urgent is an immediate response to a single impact of physical activity. The main burden falls on the regulatory mechanisms of the neurohumoral system. The maximum mobilization of physiological reserves is carried out, but they are spent uneconomically [4].

The difference in the right heart rate is the regular contraction of the myocardium with the same rest period and the number of strokes from 60 to 80 per minute. Changes in the work of the heart rhythm associated with the effect of physical exertion, cause various adaptations in the human body, which is the basis of health and high performance [2].

The objects of the research were the parameters of the heart rhythm under the influence of physical activity.

Aim of the research: to study the effect of exercise on the parameters of the heart rate and assess the role played by physical activity in persons of different ages.

Studies were conducted on young men and girls – students aged between 18 and 20 years. The evaluation of the main integrative hemodynamic parameters was performed measuring the pulse and arterial pressure at rest and under physical exertion. The level of physical working capacity was studied by conducting a sample with dosed physical loads. Subjects performed a stepwise-increasing load.

As a result of the research, changes in the parameters of heart function in young men and women of adolescence are demonstrated, which is determined by the effect of physical stress on the cardiovascular system. Using the parameters of heart rate of blood pressure and heart rate, it was revealed that the heartbeat of the majority of subjects is in the range from 38 % to 45 %. Evaluation of the fitness of the cardiovascular system was 40,6 % for young men, 42,5 % for girls. The results show inadequate heart training and indicate the predominance of adaptation of the cardiovascular system of young men over the system of adaptation of girls to physical exertion. At the same time, the parameter of the young men's heart rate is closer to the indicator of good heart's fitness 38 %.

Thus, running, in condition of regular training and selection of individual adequate workload, can solve problems with the cardiovascular system. Moderate physical training can significantly stop the age-related changes in the cardiovascular system, increase aerobic capacity and endurance (indicators of the biological age of the organism and its viability) [3].

BIBLIOGRAPHY

1. *Ivanitsky, M. F.* human Anatomy (the basics of sports morphology dinamicheskii): Textbook for institutes of physical culture. –7th Ed. / M. F. Ivanitsky, ed. by B. A. Nikityuk, A. A. Gladyshevoj, F. V. Sudzilovskaja. – Moscow : Olympia, 2008. – 624 p.

2. *Kots, Ya. M.* Sports physiology. Textbook for institutes of physical culture / Ya. M. Kots ed. – Moscow, 2008. – 240 p.

3. *Kudrya, O. N.* The influence of physical loadings of different orientation on the heart rate variability of athletes / O. N. Kudrya – Omsk; Bulletin of Siberian medicine, 2009 – 43 p.

4. *Samarin, E. V.* Physiology of sport: a course of lectures / E. V. Samarina. – Ekaterinburg : publishing house of USURT, 2014. – 79 p.

TRANSFORMING GROWTH FACTOR BETA AS A PROGNOSTIC MARKER OF FIBROGENESIS IN THE EXPERIMENTAL MODEL OF LIVER CIRRHOSIS

A. Strinovich¹, H. Ivanchyk², D. Nizheharodava²

¹*Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus*

²*Belarusian Medical Academy of Post-Graduate Education,
Minsk, Republic of Belarus
askapups@mail.ru*

A special role in fibrogenesis and immunomodulation is mediated by isoforms of the transforming growth factor β (TGF β). The level of TGF β 1 and TGF β 3 genes expression in liver tissue as well as the extracellular cytokine determination in serum of rats with experimental liver cirrhosis may be used as the prognostic marker of fibrosis and cirrhosis development.

Keywords: transforming growth factor β , fibrogenesis, experimental liver cirrhosis.