

**Purpose of the study.** It consists of the theoretical substantiation of the functional state of the students' body during fitness classes and the introduction of innovative fitness technologies that contribute to the effective formation of individual health of students at higher education institutions.

**Material and methods.** The following research methods were chosen to achieve the goal: theoretical analysis of literary sources according to the functional state of the body during physical exertion; methodology for rapid assessment of physical development indices; questionnaire; survey; assessment of functional state indices. The study was conducted within the setting of Bukovinian State Medical University. Second-year students engaged in fitness took part in the study voluntarily. The diagnostic stage included 30 students of various specialties, who were distributed into a control group (CG - 15 students) and an experimental group (EG - 15 students).

**Results.** The main target in introducing innovative fitness and health technologies into the system related to students' physical education is the state of the individual health of students. In this regard, one of the main methodological conditions for the introduction of these technologies should be the individualized dosing of physical exertion considering such primary indices as power (intensity), volume, the pace of musical accompaniment, duration of a single exposure to physical exertion, number of training sessions, recovery intervals, forms of recovery, the functional physical activity orientation.

Thus, based on the objective indices of the cardiovascular and respiratory systems of the body, it is possible to judge the effectiveness of the training programs performed and, accordingly, the loads which correspond to the student's capabilities. With increasing fitness, the heart rate and breathing at rest decreases, and the recovery time also decreases when stop exercising. A low subjective assessment of one's well-being can also serve as a signal of deterioration of the body's condition, indicating symptoms of overtiredness.

**Conclusions.** Implementing fitness and health technologies into the physical education system for higher education institutions will increase students' positive motivation for systematic physical education, fitness, sports, fitness and health technologies, and a healthy lifestyle.

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### **YOUNG PATIENTS WITH METABOLIC SYNDROME: CLINICAL EFFECTIVENESS OF TELMISARTAN**

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**Introduction.** Despite modern achievements in diagnosing and treating patients with metabolic syndrome (MS), its incidence and unfavorable outcomes have recently increased.

**The aim of the study.** The research aimed to investigate the possible clinical effectiveness of telmisartan in patients with MS.

**Material and methods.** 75 patients with MS were under investigation. They were randomized into 2 groups according to the prescribed treatment: I group – 40 patients who received statins, metformin and enalapril; II group – 35 patients for whom substitution of ACE inhibitor by telmisartan in a daily dose of 40 mg was conducted. Clinical effectiveness of the prescribed treatment was estimated in 3 months by level of blood pressure (BP), fasting glucose (FG) and blood lipid spectrum (total cholesterol (TC), triacylglycerols (TG), HDL-cholesterol (HDL-C), LDL-cholesterol (LDL-C)). Statistical methods for parametric distributions were applied for the analysis.

**Results.** Comparison of BP in patients of both groups revealed no statistical difference in 3 months of the treatment. A valid decrease of FG level for 33% was detected in I group ( $5,8 \pm 0,11$  compared with  $8,6 \pm 0,23$  mmol/L,  $p < 0,001$ ). In II group statistically lower level of FG ( $4,6 \pm 0,18$  compared with  $8,5 \pm 0,82$  mmol/L,  $p < 0,001$ ) was observed, while the absolute results of it tended to the correspondent figures of the control group. Patients of II group were also characterized by more pronounced changes in blood lipid spectrum, such as decreasing of TC by 1,89 times ( $p < 0,001$ ), TG – by 12,5% ( $p < 0,05$ ), LDL-C – approximately twice ( $p < 0,001$ ), increasing of HDL-C in 2,66 times

( $p < 0,001$ ). Revealed changes are caused by the fact that telmisartan is a partial agonist of nuclear PPAR $\gamma$ -receptors, activation of which results in glucose-lowering and antiatherogenic effects.

**Conclusions.** So, the advisability of telmisartan prescription in the treatment of patients with MS opens new perspectives for its application in this category of patients.

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## **LONG-TERM RESULTS OF TREATMENT OF PATIENTS WITH CHRONIC CHOLECYSTITIS AND HYPOTHYROIDISM**

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**Introduction.** Presence of hypothyroidism in people suffering from chronic cholecystitis, as a result of the formation of the syndrome of mutual burden, is known to promote a long course of exacerbation of chronic inflammatory pathology of the gallbladder. There is a tendency to increase the frequency of exacerbations of chronic cholecystitis, which reduces the working ability of patients and generally worsens the quality of their lives. This indicates the need to find effective schemes for the therapeutic treatment of such patients and monitor the results of the prescribed treatment.

**The aim of the study.** To investigate the long-term results of complex treatment with the inclusion of L-arginine aspartate in patients with chronic noncalculous cholecystitis and concomitant hypothyroidism.

**Material and methods.** The study involved 36 patients with chronic noncalculous cholecystitis and hypothyroidism who, depending on the treatment received, were divided into two groups. The main group included 20 patients who, in addition to the standard treatment of chronic noncalculous cholecystitis and hypothyroidism, were prescribed a solution of L-arginine aspartate 5.0 ml 3 times a day during meals for 14 days. The comparison group consisted of 16 patients, representative of the main group in terms of age and sex, who received only the standard treatment regimen. The control group included 20 practically healthy individuals. The results of treatment results were analyzed 6 and 12 months later. The criteria for including patients in the study were age from 24 to 72 years, diagnosed chronic non-calculous cholecystitis combined with hypothyroidism, informed written consent of the patient to participate in the study. The excluding criteria for patients were the following: chronic calculous cholecystitis, diabetes, connective tissue diseases (rheumatoid arthritis, systemic lupus erythematosus, systemic scleroderma, etc.), decompensated kidney and liver damage, chronic heart failure above stage II A, hypertensive disease of the II and III stages, acute cerebrovascular accident and acute coronary syndrome up to one year ago, mental disorders, other concomitant somatic diseases in an active phase or decompensation or acute conditions that can affect the results of the study, pregnant and lactating women, as well as patients, who did not consent to participate in the study and/or did not sign the patient's informed consent.

**Results.** As a result of calculations using the odds ratio (OR) method, it was established that the risk of exacerbation of chronic noncalculous cholecystitis in the first 6 months after treatment was significantly lower in patients of the main group by 5.14 times (OR=5.14, 95% CI 1.18 – 22.48), compared to patients who received only basic therapy. The risk of exacerbations of chronic noncalculous cholecystitis in patients within 12 months after treatment did not reliably differ between the subjects of both groups, which indicates the need to prescribe repeated courses of the selected therapeutic scheme.

**Conclusions.** As a result of the delayed control of treatment results, it has been confirmed that patients with chronic noncalculous cholecystitis and comorbid hypothyroidism, who received L-arginine in addition to the basic therapy, presented a decrease in the frequency of repeated exacerbations of chronic cholecystitis during the following 6 months after the treatment. A longer period of remission of chronic cholecystitis is characteristic.