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BALNEOLOGY AND REHABILITATION

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DEVELOPMENT OF OBJECT-MANIPULATIVE ACTIVITY OF HANDS UNDER INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN PATIENTS WITH INFANTILE CEREBRAL PALSY

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Key words: infantile cerebral palsy, physical rehabilitation, information and communication technologies, object-manipulative hand activity.

Annotation. The most important component in the rehabilitation of patients with infantile cerebral palsy is the development of object-manipulative activity, the content of which is object manipulation of the child's hands. The purpose of this work was to study the development of object-manipulative activity of hands under the influence of information and communication technologies in patients with this disease. Based on the informed consent from parents, 50 patients with cerebral palsy aged 6-10 years took part in the study, half of whom underwent remote physical rehabilitation within 6 months using the "Perst" ("Finger") computer program. The developed technology had a positive effect on the tactile-kinesthetic processes of fingers and speech-movement disorders. The improvement in the mobility of fingers and the ability to perform purposeful coordinated motor acts were due to the improvement in the object-manipulative activity of hands in patients with infantile cerebral palsy.

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STUDYING OF THE ROLE OF THE PREDICTOR GENES POLYMORPHISM IN THE DEVELOPMENT OF METABOLIC SYNDROME IN PERSONALIZED PREVENTION OF TYPE 2 DIABETES MELLITUS (LITERATURE REVIEW)

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Key words: metabolic syndrome, diabetes mellitus, obesity, gene polymorphism, FTO, TCF7L2-2, GNB3, ADRB3.

Annotation. Insulin resistance, dyslipidemia are determined by genetic and environmental factors. The aim of the study was to analyze modern domestic and foreign literature in the eLibrary and PubMed systems in order to study single nucleotide polymorphisms (SNP) of genes that predict the development of metabolic syndrome FTO, TCF7L2-2, GNB3, ADRB3 in personified prevention of type 2 diabetes mellitus (T2DM). Depending on their expression and function, gene variants can influence insulin action or other metabolic features. Currently, a preventive approach is considered as a promising direction in the treatment of DM-2, which allows to prevent and/or slow down the progression of the diabetic process and its redoubtable macro- and microvascular complications. Nutrition also plays an important role in the development and progression of these conditions. Due to the complex nature of genetic and environmental interactions, dietary therapy requires a "personalized" approach to nutrition.

SPORTS MEDICINE

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SCIENTIFICALLY METHODOLOGICAL COMPLEX OF RESPIRATORY TRAINING DEVICES FOR REHABILITATION OF THE CARDIOVASCULAR AND RESPIRATORY SYSTEMS DURING AND AFTER THE PANDEMIC

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Key words: respiratory training devices, pandemic, respiratory system studies, students.

Annotation. The purpose of this study is to examine and justify the effect of the developed respiratory training devices using non-traditional health-improving respiratory technologies on the process of improving the state of health of students, their physical fitness in the functional state of respiration with a further development of the competence approach during the pandemic. The conducted studies showed that the lung capacity (LC) increased by 115,38±35,45 ml; the breath-holding test on inhale increased by 7,13±3,21 s; the breath-holding test on exhale increased by 3,21±1,53 s; the heart rate (HR) decreased by 2,79±1,35 beats/min; the thoracic mobility increased by 2,59±1,73 cm. Results of the questionnaire showed that the respiration process and the total state of the organism have positively improved. Following data was registered in students, who engage in freestyle wrestling in the Perm' National Exploratory Polytechnic University sports group: the LC increased by 447,51±87,51 ml; the breath-holding test on inhale increased by 19,25±7,32 s; the breath-holding test on exhale increased by 11,33±4,35 s; the HR decreased by 5,36±3,13 beats/min; the thoracic mobility increased by 9,32±3,27 cm. The questionnaire data of this group showed that the respiration process and the total state of the organism have also positively improved.

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FUNCTIONAL STATE OF TRACK-AND-FIELD ATHLETES DURING OF THE ACCLIMATION TO THE MIDDLE ALTITUDE CONDITIONS, INCLUDING ATHLETES WITH COVID-19

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Key words: functional state, track-and-field athletes, middle altitude, acclimation, cardiorespiratory system, COVID-19.

Annotation. The aim of the work was to study the functional state of elite track-and-field athletes of national teams during the period of acclimation to middle altitude conditions, including athletes with a history of the COVID-19 infection. The results of the study showed signs of slight hypoxia in all athletes. In indicators of heart rate variability, central hemodynamics and spirometry, no significant deviations from the physiological norm were found on the 3rd and 10th days of

training camps in the middle altitude. The existing physiological changes were due to the processes of long-term adaptation of athletes to specific sports loads.

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FEATURES OF CHANGES IN SOME INDICATORS OF HEMODYNAMICS OF PARACHUTE DIVERS IN EXTREME CONDITIONS

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Key words: athletes, functional state, blood pressure, parachute divers, extreme sports.

Annotation The study was conducted to determine the main indicators that characterize the level of functional state in conditions of severe psychological and physiological stress, which leads to decreasing adaptation of parachute divers. Volumetric compression oscillometry method was the main method of examination, which parameters were subjected to mathematical and statistical analysis. The significant ($p<0,01$) indicators (pulse rate, diastolic and mean blood pressure) closely correlating ($r>0,70$; $p<0,01$) with the level of functional state of the athlete's organism were determined as a result of the study. The obtained data up potential to classify the functional state criteria for the parachute divers with a gradation at eight levels while developing a function.

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PERCEPTUAL RESPONSES OF PEOPLE WITH METABOLIC SYNDROME TO BLOOD FLOW RESTRICTION STRENGTH EXERCISE

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Key words: rating of perceived exertion, blood flow restriction exercises, Borg scale, visual analogue scale, metabolic syndrome.

Annotation. Low-intensity resistance exercises with blood flow restriction have been shown to improve neuromuscular parameters in several clinical groups, but their tolerance and effect on people with metabolic syndrome remains unknown.

This study assessed perceived exertion on the Borg scale and muscle pain response on a visual analogue scale after exercises with blood flow restriction and without restriction compared to high-intensity strength training in people with metabolic syndrome. Our results showed that both high-intensity and low-intensity strength exercises performed until the concentric failure elicit a higher level of perceived exertion compared to strength exercises with the blood flow restriction, but that blood flow restriction exercises may cause a more pronounced muscle pain response.

PHYSIOLOGY

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PARTICIPATION OF LEPTIN IN RESPIRATORY REGULATION AT THE LEVEL OF THE PRE-BÖTZINGER COMPLEX

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Key words: leptin, pre-Bötzinger complex, tidal volume, respiratory rate, respiratory minute volume.

Annotation. Leptin, produced by adipocytes, has a significant dose-dependent stimulating effect on respiration when injected into the nucleus of the solitary tract. In this study we investigate respiratory reactions to microinjections (200 nl) of 0,1 nM, 10 nM, and 1 μM leptin into the Pre-Bötzinger complex, which is involved in the generation of the respiratory rhythm. In the course of our work, we found that microinjections of leptin (10 nM and 1 μM) into the pre-Bötzinger complex caused a dose-dependent increase in the minute volume of respiration primarily due to an increase in the respiratory rate without pronounced changes in the tidal volume or the maximum amplitude of the diaphragm or integrated EMG of the external intercostal muscles. The increase in respiratory rate was largely the result of a significant dose-dependent decrease in expiratory duration, while inspiratory duration did not change significantly.

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TOTAL EVALUATION OF REGULATORY BLOOD CIRCULATION SYSTEMS OF ROAD CYCLISTS

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Key words: road cyclists, regulatory systems of the organism, type of regulation of the circulatory system.

Annotation. This article provides data on the total assessment of the regulatory systems of blood circulation (hemodynamic and autonomic) of 186 road cyclists with the qualification level: Candidate Master of Sports and Master of Sports. All cyclists were divided according to the type of self-regulation of the circulatory system into three groups: athletes with a vascular type of regulation (n = 149), with a mixed type (n = 22), with a cardiac type (n = 15). The aim of the study was to summarize the regulatory circulatory systems of road cyclists with different skill levels. In the CMS-MS groups, the values of the total assessment of regulatory systems were -7, which corresponds to the state of an athletic heart. When analyzing the results of cyclists with different indices of self-regulation of the circulatory system, this condition was noted only in athletes of the subgroup with the vascular type, in other subgroups there were values -6 for cardiac type and -4 for mixed type.

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PHYSICAL DEVELOPMENT OF NATIVES OF THE MIDDLE OB' REGION AGED 5-7 YEARS

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Keywords: preschool children, physical development, body type, natives of the Middle Ob' region.

Annotation. Indicators of physical development are the most important medical and biological criteria that reflect the influence of endogenous and exogenous factors. This study presents features of the physical development of children aged 5-7 years in the first and second generation of an alien habitancy of the unstable population of the Middle Ob' region, who were born and permanently live in the hypo-comfortable natural and climatic conditions of the northern region of Russia. A total of 70 children of both sexes were examined. Results of the study showed that the main indicators of physical development of children aged 5-7 years of the Middle Ob' region were within the general biological patterns, while a wide variability of the analyzed data was observed. The predominant body type in the examined group of children was mesomorphic, the level of physical development was "average", harmonious physical development was observed in 72% of boys and 54% of girls. The annual body mass gain in the examined children aged 5-7 years ranged from 0,80 to 1,30 kg per year, the increase in body length from 3,00 to 5,70 cm per year. There were no statistically significant differences in body length and mass in boys and girls aged 5-7 years.

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PHYSIOLOGICAL AND BIOMECHANICAL CHARACTERISTICS OF LOWER EXTREMITIES' MUSCLES IN FEMALE BOXERS DURING THE MAXIMUM LOAD TEST OF BOSCO REPEATED JUMPS

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Key words: biomechanics, electromyography, boxers, adaptation, functional capabilities, sports and pedagogical testing.

Annotation. The aim of the work was to study the electrophysiological and biomechanical characteristics of the lower extremities' muscles in athletes when performing the maximum load test of Bosco repeated jumps. For biomechanical and electrophysiological analysis of movements and test exercises of athletes for the BTS SMART-Clinic software, a computer program was developed – the Bosco repeated jump test (Certificate of registration of the computer program № 202161987918, 18.06.2021). The study of indicators of muscles' electric activity

during the performance of the sports load test of Bosco repeated jumps was carried out in a group of women, Masters of Sports in boxing. The results of the study showed that the highest biomechanical parameters of the repeated jumps test in the 1st period of the test load (1-15 s) are due to high tension, and, consequently, the activation and synchronization of motor units, primarily the rectus femoris muscle. In the 3rd (31-45 s) and 4th (46-60 s) period of the test the tension of the biceps femoris increases, which stabilizes the body when landing and pushing off. This, as well as an increase in the electric activity of the muscles of the left leg and a decrease in physical parameters by the end of the test, indicates the development of first compensated and then uncompensated fatigue. The dynamics of indicators of the electric activity of the lower extremities' leading muscles, providing jumping movements during the multiple jump test, allows one to characterize the local physiological processes that determine the manifestation of functional capabilities and the state of fatigue.

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FLUCTUATIONS IN SKIN SURFACE TEMPERATURE WHEN SIMULATING AN EFFECT THAT INTERRUPTS THERMOREGULATION IN PEOPLE INVOLVED IN CYCLIC SPORTS

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Key words: thermoregulation, homeostasis, temperature rhythmological fluctuations, female students.

Annotation. The aim of this study was to assess the influence of moderate cooling on the preservation of temperature rhythmological fluctuations of the skin surface in female students with different fat state, who engage in cyclic sports, before and after warm-up. The experiment was carried out at an ambient temperature of 20-21 ºC. The analysis of temperature fluctuations confirmed the hypothesis of the study, based on the fact that each individual has his own personal biorhythm of fluctuations in the temperature of the body's skin surface. Due to the genetically determined temperature biorhythm, adaptive changes at an ambient temperature of 20-21 ºC are the one of the mechanisms contributing to the efficiency of muscular activity.

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FEATURES OF CEREBRAL HEMODYNAMICS IN YOUNG MEN WITH DIFFERENT CONDITIONS OF ADAPTIVE RESERVES OF THE ORGANISM

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Key words: young men, organism adaptation, cerebral hemodynamics.

Annotation. Each person's life can be considered as a constant adaptation, but our individual abilities have certain limits to this process. Prolonged stress on the regulatory mechanisms of adaptation can lead to depletion of the body's reserve capabilities, disruption of adaptation and loss of health. At the same time, the reaction of the blood supply to the brain can be an objective criterion that allows us to assess the adaptation of a person to any type of activity. The aim of the study was to analyze the state of blood supply to the brain in young men with different indicators of the activity of regulatory systems (IASA) that characterize the systemic adaptation process. A comparative analysis of brain hemodynamics in 150 young men with different degrees of stress of adaptive processes of the body was carried out. It is shown that an unsatisfactory adaptive response of the body, as well as a disruption of adaptation in young men, is accompanied by cerebral dystonia with a decrease in the tone of large, medium and small arteries in the vertebrobasilar area of both brain hemispheres. As adaptation deteriorates, there is an increase in interbasin blood flow asymmetry with an increase in cerebral hemodynamics in the area of the internal carotid artery on both sides that feed the prefrontal cortex.

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EFFECT OF THE “ADAPTOVIT” MEDICATION ON PSYCHOPHYSIOLOGICAL CHARACTERISTICS AND THE PSYCHOEMOTIONAL STATUS OF DOG HANDLERS

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Key words: "Adaptovit", adaptogen, dog handlers, complex visual-motor reaction, CVMR-3, "Psychophysiologist" device, professional workloads, psychoemotional state, self-assessment questionnaire.

Annotation. The aim of this study was the effect of the "Adaptovit" medication on psychophysiological indicators and the psychoemotional status of specialists of canine units of the Ministry of Internal Affairs of the Russian Federation, whose work implies increased physical and mental activity, as well as a high level of psychoemotional stress. During a month, representatives of the experimental group took an adaptogen. At the beginning and at the end of the study, indicators of a complex visual-motor reaction and psychoemotional indicators were measured. The positive effect of the biologically active supplement "Adaptovit" was revealed. This effect consists in maintaining the adaptive capabilities and stability of dog handlers to conditions of physical and psychoemotional loads.

PHYSICAL EDUCATION AND SPORTS

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SHOOTING: ANALYSIS OF NEW FOREIGN SPORTS TRAINING TECHNOLOGIES

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Key words: shooting, technical and tactical readiness, postural stability, optoelectronic training devices.

Annotation. The article is devoted to the analysis of modern aspects and technologies of training athletes in shooting abroad. One of the most significant areas in the focus of researchers' attention is the improvement of technical and tactical readiness, determination of the factors of shooting performance, which most often include postural stability, the time the aiming point was held on the target and the accuracy of aiming the weapon at the target. To organize training in improving

the technique of shooting, specialists develop various specialized hardware and software systems and optoelectronic training devices. Despite this, there is little research devoted to analyzing the differences between biomechanics and techniques of virtual and real shooting.

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MOTOR ABILITIES TRAINING OF 9-11 YEAR OLD TRACK-AND-FIELD ATHLETES WITH THE USE OF THE CONJUGATE INFLUENCE METHOD

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Key words: young track-and-field athletes, initial training, conjugate, methods of physical training, motor abilities.

Annotation. This article presents contents of the experimental method of training motor abilities, which has shown high efficiency in comparison with the traditional one used at the stage of initial training for young track-and-field athletes. The developed method allowed increasing the effectiveness of the training process of 9-11 year old athletes, engaged in groups of initial training by implementing the developed sets of static, static-dynamic, dynamic exercises into the structure of classes, taking into account the goals and objectives set by the coach. A scientifically based algorithm for using the means of general training and complex coordination exercises allowed young athletes to achieve high growth rates of speed, speed-strength and coordination abilities. The present study involved girls (n=51) and boys (n=47), engaged in the «track-and-field» program in the initial training groups of the first, second and third years of training.

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MOTOR PERFORMANCE AS A FACTOR OF LIMITING MOTOR CAPABILITIES OF SOCCER PLAYERS

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Key words: global positioning system, parameters of inertial high-intensity movement, motor performance, functional assessment of movement, motor capabilities, soccer players.

Annotation. The purpose of the study is to study the GPS parameters, measured by inertial units, of motor performance as factors limiting the motor capabilities of soccer players, determined by the test values of the functional movement screen (FMS). 40 soccer players (age 16,8±2,.1 years; height 168,8±1,6 cm, weight 69,5±5,3 kg) were tested in training sessions (n=149) using the Catapult global positioning system (Optimeye S5; Catapult Innovations of Australia, Melbourne). The parameters of inertial high-intensity movement (IMA High>3,5 m/s^{-1}) were recorded: acceleration (IMA acceleration High), deceleration (IMA deceleration High), change of direction to the left (IMA Cod Left High), change of direction to the right (IMA Cod Right High), jumps (IMA jump High). Functional motion screen (FMS) was performed twice during the study period. The diagnosis included 7 test exercises, in each of which the athlete could get from 0 to 3 points. There was a strong inverse correlation between the acceleration parameter and the FMS test exercises: the rotary stability of the right side (r=-0,917, P=0,018) and the overall score (r=-0,844, P=0,011); a strong direct correlation between the inertial high-intensity deceleration indicator and the FMS test scores: deep squat (r=0,759, P=0,013), hurdle step with the right foot (r=0,713, P=0,015), in-line lunges on the left (0,863, P=0,016) and right (r=0,879, P=0,011) legs, rotary stability of the right side of the athletes' body (r=0,749, P=0,013), overall score (r=0,.753, P=0,015); between inertial high-intensity changes of directions to the left and FMS test exercises: in-line lunge on the right leg (r=0,713, P=0,014), active raise of the right straight leg (r=0,935, P=0,011), mobility of the left side of the shoulder (r=0,717, P=0,014), overall score (r=0,912, P=0,012); between the indicator of high-intensity inertial changes of direction to the right and FMS test "in-line lunge on the left leg" (r=0,912, P=0,012); between jump-based inertial high-intensity activity and test scores in the following exercises: deep squat (r=0,827, P=0,012), hurdle step (r=0,771, P=0,013), mobility of the left shoulder (r=0,986, P=0,011). The parameters of inertial high-intensity movement (IMA High>3,5 m/s^{-1}) can be considered as factors limiting the motor capabilities of soccer players. The most significant functional deficiencies are manifested in tasks related to deep squats, trunk stabilization and mobility of the lower limbs, as well as a large prevalence of asymmetry of the right and left sides of the body.

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FEATURES OF THE ATTITUDE OF SCHOOLCHILDREN TO HIKING IN THE CONTEXT OF REDUCING MOTOR ACTIVITY OF CHILDREN AND ADOLESCENTS

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Keywords: hiking, sedentary lifestyle, students, body-motor experience.

Annotation: The understanding of the lack of children and adolescents' activity should not be limited only to quantitative indicators. It should be expanded by studying the qualitative aspects of body-motor experience of the younger generation. The inclusion of students of a general education school in the practice of the tourist approach contributes to the solution of this problem. A survey, which was conducted among the students of 5-11 grades, showed that, in their opinion, the hiking contributed to the development of independence, diligence, readiness to help others, ability of self-overcoming, motor qualities, skills and abilities. The involvement of the students in the hiking practice has not only a keen interest of children in hiking, an awareness of their benefits both in body-motor and socio-psychological relation, but also forms good prerequisites for resistance to technological types of addictions.

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MODELLING STRUCTURAL ELEMENTS OF COMPETITIVE ACTIVITY IN SPECIAL TRAINING OF QUALIFIED RACERS IN BMX

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Key words: competitive activity, BMX racers, start and starting build-up, finish, obstacle crossing, training process.

Annotation. Successfulness or unsuccessfulness of performing a competitive exercise by qualified BMX racers is due to the quality of performing separate elements of passing the BMX trails, the structure of which includes the start and the starting build-up until the first obstacle, passing through the middle segment of the distance, obstacle crossing, passing berms and the final segment of the distance. The

special fitness level of racers needs to be evaluated according to the most important structural units of performing the competitive exercise, since it is due to the time of passing a special BMX trail. The purpose of this study is to substantiate approaches to model the elements of competitive activity in the training process of qualified BMX racers. Four options of the model were developed, suggested and proven, based on typical patterns of passing the elements of the competitive trail by BMX racers. Using the developed scheme of modelling elements of the competitive distance allowed working on weaknesses of the racer's special fitness, to individualize the training process at the expense of redistributing special means of training.

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PHYSICAL FITNESS OF INFORMATION TECHNOLOGY EMPLOYEES OF THE FIRST PERIOD OF ADULTHOOD

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Key words: physical condition, physical fitness, health-improving classes, information technology employees.

Annotation. The intensification of labor activity, the performance of various roles in society place increased demands on the physical condition of employees. Currently, in labor activity, the organism of an employee in the field of information technology is forced to function in conditions of a movement deficit, which are necessary to maintain their performance. The aim of the study was to identify the features of physical fitness of information technology employees in the first period of adulthood. The study of the physical condition of 80 (41 women, 39 men) information technology employees in the first period of mature age was carried out. The features of physical fitness of employees of the sphere of information technology of the first period of adulthood were revealed. The heterogeneous composition of the studied groups, revealed in the course of the study, indicates the need to substantiate a differentiated approach in the implementation of health-improving physical culture classes for this category.

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COORDINATION ABILITIES DEVELOPMENT METHODOLOGY IN YOUNG ATHLETES WITH MENTAL RETARDATION

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Key words: mental retardation, coordination abilities, training methods, track-and-field athletics, sports training.

Annotation. The purpose of the research is theoretical and experimental substantiation of the methodology for the development of coordination abilities in young athletes with intellectual disabilities. The methodology of training classes, aimed at the development of coordination abilities among athletes with intellectual disabilities at the stage of initial sports training, using TRX bands, speed ladder, balance ball and slacklining, is proposed. Application of the methodology in the preparatory and competitive periods led to a statistically significant improvement in stabilometry indices, tests for coordination abilities.

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PHYSIOLOGICAL SUBSTANTIATION OF THE FORMATION OF COMPLEXES OF PHYSICAL THERAPY FOR PREMATURE INFANTS OF THE FIRST YEAR OF LIFE

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Key words: premature infants, heart rate variability, physical therapy.

Annotation. The article deals with the features of vegetative regulation of the heart rhythm of infants born prematurely. 30 full-term and 30 premature infants of the first year of life were examined with distribution according to age periodization and taking into account stated and corrected age. The method of spectral and mathematical analysis of cardiorhythmograms, as well as methods of mathematical statistics, were used to assess heart rate variability. Overstrain of adaptation mechanisms was revealed in 43% of premature newborns. Significant differences in VLF, LF, and HF indices by corrected age indicate insufficient activation of the sympathetic part of the vegetative nervous system. During the orthostatic test, a

mixed type of adaptation prevailed in 50% of premature infants. Index with mixed (predominance of central regulation of the heart rate) and asthenic types of regulation are recommended relaxation exercises, reflex gymnastics at a slow pace with a rare change of starting positions. With vagotonic and mixed (autonomous type of regulation) types – exercises on fitballs at an average pace with frequent change of starting positions. Massage, hydrokinetic therapy and dry immersion were performed regardless of the type of adaptation. After the pedagogical experiment, a significant decrease in the proportion of VLF waves and an increase in the mode amplitude were revealed, which indicated the normalization of adaptation processes.

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THE DEVELOPMENT OF THE MUNICIPAL FLATWORK SPORTS INFRASTRUCTURE OF OMSK

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Key words: social field, health of the population, physical culture and sports, mass sports, flatwork sports infrastructure.

Annotation. This article presents criteria and analysis methods, which allow improving a mechanism of managing the flatwork sports infrastructure in municipal district, using the example of Omsk. A detailed analysis of the mechanism of planning and distribution of flatwork sports facilities would allow solving such tasks as the creation of a system of information on present facilities of the flatwork sport infrastructure, an increase of indicators of implementing the municipal program, a definition of stages of planning the distribution of financial resources and their rational planning, etc.

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THE CONTENT OF PHYSICAL CULTURE AND SPORTS ACTIVITIES OF TRAINEE STUDENTS FOR THE PREVENTION OF DEVIANT BEHAVIOR OF STUDENTS

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Key words: deviant behavior, schoolchildren, students, prevention, physical education, sports activities, network interaction.

Annotation. The purpose of the study was to substantiate the possibilities of physical culture and sports activities as a mean of pedagogical correction and prevention of deviant behavior of students in conditions of organizing network interaction between a pedagogical university and a general education school. The study involved students of the 2nd-5th year of the Faculty of Physical Culture and Sports of the Ulyanovsk State Pedagogical University, students of 9-11 grades (135 people) of basic schools of pedagogical practices. The obtained results of the study indicate that the organization of alternatively significant physical culture and sports activities by trainee students provides correction of individual psychological characteristics of students' personality, creates prerequisites for self-regulation of mental states, is an effective direction for the prevention of deviant behavior of minors. The results of the study are of professional interest for physical education teachers, psychologists and sociologists.

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FORMING MOTIVATION FOR INDEPENDENT MOTOR ACTIVITY CLASSES IN STUDENTS OF THE NON-MAJOR HIGHER EDUCATION ESTABLISHMENT

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Key words: motivation processes, physical culture, independent motor activity, full-time department students, healthy lifestyle, structure of the motivation- and value-based attitude towards physical culture.

Annotation. This article is dedicated to processes of forming students' motivation for motor activity in their free time. Motor activity, alongside with healthy eating and self-regulation skills, is one of the most important components of a healthy lifestyle. Insufficiently formed motivation in students for independent motor activity leads to decreased physical loads, and, as a result, to a decreased level of functional indicators of the organism. We conducted this study to assess processes of forming motivation for independent motor activity by inviting first-year and second-year students of the Medical Institute in the Peoples' Friendship University of Russia (PFUR) located in Moscow.

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MENTAL FITNESS OF BASKETBALL PLAYERS AS A FACTOR OF THE EFFECTIVENESS OF FAST BREAK IN THE CONDITIONS OF COMPETITIVE ACTIVITY

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Key words: basketball players, fast break, erroneous actions, mental fitness for actions.

Annotation. The analysis of the results of the expert evaluation of the basketball players’ playing activity revealed a significant number of erroneous actions in all phases of the fast break, which contributed to the formation of a negative psychoemotional state in the players, manifested in uncertainty, fussiness, increased irritability, sometimes turning into aggressiveness, increased distraction, which reduced the effectiveness of competitive activities. In the course of the study, the subjects demonstrated mental fitness. In particular, this was expressed in the optimal level of mental tension before the matches. However, there was a lack of mental fitness for specific actions in the conditions of game activity, for example, with erroneous actions in the process of implementing the fast break, which was confirmed by the athletes' own opinions and externally observed expressive manifestations of emotions (posture, movements, gaze, facial expressions). After conducting a formative experiment with the use of psychological techniques, positive results were obtained, which was confirmed by the manifestations of mental fitness in basketball players to act in any game situations, which, accordingly, helped to avoid erroneous actions when performing the fast break.

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THE BIOMEDICAL ASSESSMENT OF THE EFFECTIVENESS OF A DISTANCE COURSE IN PHYSICAL CULTURE FOR STUDENTS OF A SPECIAL MEDICAL GROUP

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Keywords: physical culture, distance learning, special medical group, cardiovascular system, respiratory system, physical performance.

Annotation. The article considers the effectiveness of the application of the distance learning program in the discipline «Physical Culture» (PC) on the level of the functional state and reserve capabilities of the body of students of the special medical group (SMG). The functional parameters of the cardiovascular, respiratory systems, the tone of the paravertebral muscles of the back and neck, as well as indicators of strength and endurance were studied in twelve students aged 17-19 years with a diagnosis of idiopathic structural scoliosis of the II-III degree, engaged in PC on the full-time program, and the same students, who studied remotely. It is shown that the remote PC classes do not have the desired corrective effect. Informatization of the educational system of physical education of SMG students should be of a mixed type, where the traditional form of classes remains as the leading one.

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CONTROL OF MORPHOFUNCTIONAL INDICATORS OF QUALIFIED POLYATHLON ATHLETES (DISCIPLINE – TRIATHLON WITH SKI RACING) WITHIN THE PREPARATORY STAGE OF THE MACRO CYCLE

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Key words: polyathlon, triathlon with ski racing, biomedical control, morphofunctional indicators, preparatory period.

Annotation. This article presents results of studies, showing information on the morphofunctional status of polyathlon athletes, specializing in triathlon with ski racing. Dynamics of morphofunctional indicators within the preparatory period of the macro cycle were recorded. A significant increase in test results during training preparation were revealed in following indicators: strength index of the right hand, vital index, lung capacity, breath-holding tests on inhale and exhale, the Ruffier-Dickson test. Obtained data can serve as a factor of correcting the training process of qualified polyathlon athletes and be used to specify the biomedical control in polyathlon. Quantitative values of indicators of the morphofunctional status of polyathlon athletes with the Master of Sports qualification can serve as an orienting point for athletes of earlier stages of the long-term preparation.