

International Conference on the 70th Anniversary of Sports Medicine in the Republic of Moldova

12-14 October, 2017, Chisinau

FOREWORD

It is a great pleasure to invite you at the 70th Anniversary of the International Conference of Sports Medicine in the Republic of Moldova. This is an excellent opportunity to meet our international and national partners, to bring together well-known senior experts and talented junior researchers, and also to discuss fruitfully and prospectively about the new researches and exchange of information at all disciplines related to sports medicine.

During the conference delegates will discuss actual problems of sports medicine, including

management of sport care, sport cardiology, traumatology, orthopedics and rehabilitation, sports nutrition, emergencies in sports medicine, health promotion and sports medicine etc.

The achievements in sports medicine in the Republic of Moldova will be summed up, with the role of medical-sports examinations and the prospects for developing activities in this field in line with international practices.

During the last few years, several activities have been carried out regarding to sports medicine in the Republic of Moldova. It was performed to strength, by broadening, the spectrum of medical-sport examination, in order to improve the medical act and provided services.

In June 2012, the first Scientific-Practical Conference on Sportive Medicine was held, with the title "Sports medicine - a healthy human clinic".

In November 2012, the Jubilee Conference was held 65 years after the founding of Sports Medicine in the Republic of Moldova and the National Sports Medicine Center „Atletmed”.

The scientific-practical conference with international participation "Sports Medicine: Challenges and Perspectives" which was held on 12-13 November, 2015 at the Nicolae Testemitanu State University of Medicine and Pharmacy from the Republic of Moldova is also related to assessment of the current healthcare system of athletes.

The athletes have an increased interest towards their health, results and long-life in sporting. It is important to note that the success in athletic achievements of athletes largely depends on the quality of provided health care services. This requires a very significant approach to the quality of sports medicine services provided at all levels.

We hope that the conference will not be just a place to discuss new aspects regarding sports medicine but also an opportunity to meet people from different countries and cultures, an occasion to visit the wonderful city Chisinau.

We wish you a pleasant meeting and we are looking forward for a good collaboration in the future!

On the behalf of Organization Committee,

Gheorghe Ștefanuț- Head of National Centre of Sports Medicine “Atletmed”

Aim of the study was to compare the autonomic nervous system(ANS) functioning, as measured by heart rate variability (HRV), in athletes with non-functional overreaching(NFO) and overtraining(OTS) and athletes without NFO/OTS.

Material and methods: On the initial stage of the study conducted in the Clinical Center of Sports Medicine and Rehabilitation of Tbilisi State Medical University physical condition and health state of 348 high level athletes (aged $22\pm 4,7$ y.o.) were examined and 43 subjects with NFO/OTS were revealed, among them 37(10,6%) athletes with non-functional overreaching and 6 (1,7%) athletes with overtraining of different severity and duration

Results of the study show lower HRV and lower vagal influence along with increased sympathetic cardiovascular control in athletes with non-functional overreaching and particularly in athletes with overtraining, than in highly trained athletes without NFO/OTS. "Stress Response" in athletes with NFO, as well as in some athletes with OTS, showing sympathetic dominance, considered as a sign of physical or mental fatigue and chronic stress, whereas "Total Autonomic Dystonia" in most of the athletes with OTS (67%) reflects more advanced stage of maladaptation associated with depressed regulatory function of the ANS, both sympathetic, as well as vagal influences. Most frequently NFO and OTS were seen in wrestling, which needs further investigation and regular medical monitoring.

Conclusions: Thus, results of the study show progression of autonomic imbalance and depression of regulatory function of the autonomic nervous system in athletes with OTS. The cardiac autonomic imbalance observed in overtrained athletes implies changes in HRV and therefore would consider that heart rate variability may provide useful information in detection of overtraining in athletes and can be a valuable adjacent tool for optimising athlete's training program as well as for timely diagnosis and prevention of progression of NFO/OTS.

PHYSICAL GROWTH AND NOURISHMENT OF PUPILS STUDYING AT A SPORT
HIGHSCHOOL AND AN ART ONE – pilot study

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Introduction: nourishment is an external factor that plays an important part, assuring physical growth and maintaining children's and teenagers' health. It is also important for teenagers who practise performance sport.

Material and method: the study was done on a group of 54 seven graders from a sport high school (25 teenagers) and an art high school (29 pupils) from Iasi. There were evaluated the physical growth (with the aid of the national reference values) and nourishment (with the aid of quiz regarding the weekly frequency of food consumption) of these teenagers.

Results: pupils' height is especially average (46,29%), and so is the weight (66,66%). The calculated differences on groups are statistically insignificant. The diagnosis of physical growth points out 25,92% teenagers with a disharmonious growth with mass shortage and 11,11% teenagers with mass surplus. 5.55% teenagers with a pathological growth draw our attention. The calculated differences are statistically insignificant and draw attention on the growth of pupils from the sport high school. They should be carefully supervised, as the disharmonious growth with mass shortage or surplus is not a stimulating factor for the sport performance. It could be a burst of growth or a disharmonious growth caused by an unbalanced nourishment. The leading input of cheese, meat, animal and vegetable fat is 1-3 times a week, the calculated differences being statistically insignificant. These results are inappropriate and point out the existence of a disordered nourishment, which could be risky for the pupils from the sport high school. The main consumption of vegetables is 4-7 times a week, a results fitting in the norms of rational nourishment.

Conclusions: physical growth and nourishment are similar at pupils from the two study groups. It is quite an unexpected result for the pupils from sport high school, for whom physical growth and nourishment play an essential role to assure sport performance.

NATURAL REMEDIES USED IN SPORTS MEDICINE. MEDICAL AND LEGAL ASPECTS

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Introduction: Generally, in the last period people are increasingly turning to natural remedies from medicinal plants. Goals are different from diminishing hypodynamic states or rehabilitating the general public, cases of self-medication to body modeling by increasing muscle mass, a tendency that is especially true of amateur athletes. There is no exception in this direction from either performance athletes, but the purpose already pursued in this case is also linked to the increase in physical performance. Probably the same is true also for other types of sports.

Material and methods: As material and methods, we selected a systematic analysis based on Medline database using appropriate keywords and manual evaluation of returned items. Separately we analyzed: cross-sectional studies on the use of various natural remedies by athletes, clinical trials aimed at investigating natural remedies or nutritional supplements to athletes subjects or for use by athletes, other studies (observational, case reports on the use of such products in athletes, etc.). Non-clinical studies were not included in the analysis.

Results:A systematic analysis based on the use of appropriate keywords shows that, in the top of preferences, including athletes preferences, are the preparations and natural remedies obtained from medicinal plants. In total 283 articles were processed, including 19 synthesis (reviews) articles, 5 case studies (AR of dietary supplements used by sportsmen or positive doping tests), 11 cross-sectional studies investigating the use of dietary supplements in various categories of athletes, 23 experimental studies.

Clinical studies using natural remedies from the Ginseng root reveal the following indicators: Cross Study, Crossbred Pb Study (n = 10); 1125 mg / day, 35 days; CD8 + T cells from peripheral blood have diminished, the ex-vivo production of mitogen-stimulated IL-2 has

increased; no other changes in the immune system, lactate, insulin, cortisol, or growth hormone were observed. Another study (n = 4) compared the influence of a ginseng extract (20 g) on growth hormone, IGF-1, testosterone and cortisol administered immediately after an intense exercise. Within the 2-hour recovery interval there was no significant difference between verum and Pb.

Natural Remedies of *Eleutherococcus senticosus* (Rupr. Et Maxim.) Study DB, Cross-Bound, Pb Controlled, Crossed (n9); 800 mg / day ES or placebo, 8 weeks; V O2 max increased by 12% (p 0.005).

Conclusion: This study evaluated the situation in patients with RA with and without functional rehabilitation treatment and showed that pain worsen the quality of life.

SCOLIOSIS IN THE PRACTICE OF A SPORTS DOCTOR

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Introduction: Scoliosis is the lateral deviation of the spine from its vertical axis by more than ten degrees. In children and adolescents involved in asymmetric sports, muscular hypertrophy on the dominant side of the trunk can give the impression of having scoliosis. For patients with

unstructured scoliosis, there are no contraindications for exercises.

Material and methods: As a material for the study were used several international scientific articles and theses. In the process of research were used meta-analysis, statistical observation, and the method of synthesis. The goal was to study international experience in this field.

Results: Scoliosis is a descriptive term, not a diagnosis. Structural scoliosis is characterized by deformation of the vertebrae. When examining a patient, the test with lateral inclinations does not affect the curvature of the scoliosis or even worsens it. Scoliosis is also often followed by disorders resulting from the asymmetry of the tone of the muscles of the trunk, for example, in rickets, poliomyelitis, cerebral palsy, congenital crooked. However, in 80% of cases of structural scoliosis the cause remains unclear, although there have been carried out numerous studies to identify it. As for the treatment of unstructured scoliosis, the set of tools and methods in this case is unlimited, which most likely indicates the low efficiency of almost all methods, the large involvement of unstable placebo effects due to the prevalence of pain syndrome in the clinical picture. Various kinds of therapeutic gymnastics and kinetotherapy, massage, physiotherapy and sanatorium treatment, osteopathy, reflex therapy in the form of ointments, rubbing or compresses, antalgic injection blockades, dry and underwater traction methods, kinesiotherapy, manual therapy, acupuncture are used. And this is due to the heterogeneity of the pathogenesis of various types of scoliosis. The main goal is to prevent the subsequent progression of scoliosis and, thus, the maintenance of normal functioning of the thoracic organs. It is assigned to an experienced orthopedic surgeon. If the curvature is 20-25°, observation is carried out. Upon reaching maturity, a screening test is recommended every 6 months. If progression occurs more than 5° in six months, there will be prescribed a corset. Therapeutic exercises are ineffective. Studies show that using a corset is much more effective than electrostimulation. But for this, most orthopedists recommend wearing a corset full-time, that is 24 hours. If the scoliosis is greater than 40-50°, it is recommended surgical correction. Full correction is rarely achievable.

Conclusion: The strategy of the therapeutic approach in athletes could be presented as follows: 1) The volume of therapeutic intervention is conditioned by the degree of severity of the pain syndrome. In other words, painless lung scoliosis needs only rational psychotherapy. 2) In the presence of skeletal asymmetry due to the relative flatfoot correction is made - orthopedic insoles, individually manufactured footwear, etc. 3) The most blocked segment / segments of the spinal column are palpated, and the therapeutic action is accented on it as much as possible. The combined effect on the main trigger zones or biologically active points of the body with local use of medicines is maximally effective, supplemented by the elimination of subluxations of the facet joints of the entire spine, followed by a modification of the lifestyle, aimed at reducing the asymmetry of the routine vertical load on the spinal column in waking state and eliminating the asymmetry of muscle tone during sleep.

NERVOUS SYSTEM DISORDERS AMONG ATHLETES FROM THE REPUBLIC OF MOLDOVA

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Actuality: The individual's loading at the place of activity is the mobilization of physical and psychophysiological functions and capacities. It is a result of the influence of external and internal excitors according to the nature, complexity and responsibility of the actions. Studying the health status of athletes and early detection of chronic or acute disorders - is an important measure of fortification of the athletes' health.

Material and methods: As materials were used the results of the medical examinations of athletes at the Atletmed National Sports Medicine Center in 2016. The analysis was carried out using traditional statistical methods.

Results: In the Republic of Moldova there are about 12,900 people practicing various sports. The Ministry of Youth and Sport supervised 18 sports schools with 4989 athletes. At the level of

local public authorities there are 66 sports schools with about 23,000 athletes.

In 2016 at CNMS Atletmed was performed the neurological medical control of 4414 persons, i.e. 3.4% of the total number of registered athletes. The medical examination data confirmed 22 cases of illness. 4 of these cases - for the first time, i.e. 18.1% of the total recorded. The nosological structure of the identified diseases includes the following forms: infantile paralysis - 4.5%, consequences of neuroinfection - 12.6%, vertebro-basilar insufficiency - 12.6%, lumbar spine pain and thoracalgia associated with scoliosis - 22.8%, perinatal trauma consequences - 45.5%. In dependence of the sports types the cases are divided as follows: athletics - 4.5%, football - 4.5%, autosport - 9.1%, basketball - 9.1%, free fighting - 9.1%, judo - 9.1%, weightlifting - 9.1%, kickboxing - 18.2%, swimming - 27.3%.

Conclusion: Nosology with high frequency is presented by the consequences of perinatal trauma, and among different sports a major incidence is noticed in kickboxing and swimming.

OCCUPATIONAL DISEASES AND DISABILITY PHENOMENON AMONG PROFESSIONAL SPORTSMEN

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Introduction: Athlete health is one of the most important factors in achieving high scores. The performance of athletes is very heavy, which causes the high probability of occupational diseases and accidents occurrence and as a result the loss of work capacity with the occurrence of disability.

Materials and methods: In the research process were used the historical-bibliographic (35 international articles in the field made over the last ten years), case study and descriptive-comparative methods.

Results: Studies have shown that performance athletes occupation is very heavy, according to classical hygienic classifications, which act daily on the athlete and are negatively reflected on the functional indicators of the body's state. The prevalence of chronic disease is 84 cases per 100 athletes. The first place in the structure of chronic diseases among athletes is the musculoskeletal and peripheral nervous system diseases. There were 6,183 athletes with vocational training / education in Republic of Moldova in 2015, of which 3884 were adults. There were also registered 183.9 thousand persons with disabilities, which make up about 5.2% of the population of the republic, disability having a general tendency to increase among young people and working age population. At national level, there is no evidence of occupational morbidity and disability among athletes. Most frequently, people are examined in terms of general work, as general population, without the specialization of occupation / profession, in our country. There is currently no adequate rehabilitation service in the sports medicine system, which could meet the demands of modern sport.

Conclusions: Solving this multilateral problem by a complex medical-social approach will provide athletes guarantees for safe work. A solution is to create a National Sports Medicine Service and cooperation with National Council for Determining Disability and Work Capacity, The Republican Center for Occupational Diseases and chairs of State University of Medicine and Pharmacy. Contemporary development at the national level of the individualized electronic

medical card could be a solution for athlete monitoring at all levels of health and social care.

INSTRUMENTS FOR DETERMINING THE HEALTH RISK FACTORS FOR WORKING AGE POPULATION

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Introduction: Risk is a component of the life and accompanies man in all spheres of his work. Reducing the impact of risk factors on the health of the working-age population is an important task of occupational health. The Concept of Occupational Safety is formulated in the ILO Global Workplace Development Strategy on Occupational Safety.

Materials and methods: In the framework of the Occupational Health Laboratory were developed tools / questionnaires for highlighting occupational factors at the level of primary health care. The qualitative study allowed highlighting obstacles in determining the diagnosis at an early stage and assessing the loss of their work capacity.

Results: The data from the national statistical reports mention an increase in the number of jobs with harmful and unfavorable conditions. The number of cases of morbidity with temporary working incapacity is increasing (from 50.6 cases per 100 employees in 2012 to 52.5 cases in 2016); the number of days of morbidity with temporary working incapacity is increasing (from 778.5 days per 100 employees in 2012 to 825.4 days in 2016); and the incidence of the disability of the working age people is constantly increasing (from 35,6 in 2011 to 39,2 in 2015). On the other hand, the low level of diagnosis of occupational diseases over the last five years does not accurately reflect the situation regarding the state of health of the employees. The selective study has highlighted that the most important obstacles in determining the diagnosis of occupational diseases and work related are: 1) the lack of information about work risks; 2) employment without the employment contract; 3) the worker's fear and unwillingness to declare health problems; 4) the absence of normative-legislative levers to motivate the family doctor to diagnose on time the problems of an employee's health.

Conclusions: The theoretical and practical importance of estimating the health of the population in relation to risk factors, assessment and prevention of occupational hazards is not only an important area of public health but also an important element for leadership in the enterprise or organization.

PRACTICING PHYSICAL EDUCATION AND SPORTS IN PRE-UNIVERSITY EDUCATION INSTITUTIONS IN THE REPUBLIC OF MOLDOVA

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Introduction: During childhood and teenage, physical education at school provides an excellent opportunity to learn and practice the skills needed to improve physical and health status throughout life. Early acquisition of basic skills makes it crucial for children and adolescents to practice and understand better the value of these activities in their later education. Thus, the aim of our study was to evaluate the provision of pre-university education institutions with gyms and staff.

Materials and methods: The data on the provision of schools with gyms collected from all the pre-university education institutions of the Republic of Moldova by the regional Public Health Centers were sent to the National Public Health Center where they followed a statistical analysis. In the study were used the following research methods: analytical, descriptive, statistical and mathematical.

Results: The general schools in the Republic of Moldova are provided with sports facilities in the proportion of 84.6%. The smallest share of the sports schools of the general schools is observed in regions as Șoldănești (43.5%) and Rezina (53.3%). From the general schools of the Republic of Moldova where there are gyms are provided with shower only 45.9%. Have to mention that in Causeni, Criuleni, Donduseni, Dubasari, Rezina, Soroca, Telenești, Comrat and Vulcanesti are no schools with showers in the gyms. Another current problem is the presence and functionality of dressing rooms attached to gyms. In 85.8% of the schools provided with gyms these are present and in 83.4% of the schools they are functional.

Conclusions: Practicing physical activities at physical education lessons at schools should ensure development of a healthy and dynamic youth, capable of creative activities, in order to form an integral, creative and autonomous personality. In schools of the Republic of Moldova there is still a problem with the provision of gyms and sports grounds for practicing physical activities.

CORRELATION OF THE STUDENTS HEALTH AND THEIR MUSCULAR ACTIVITY

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Introduction: The issue of physical education and the preservation of young people's health is dedicated to the research of many scientists. In particular, V.A. Antikova, V.G. Apanasenko, S.O. Gorbatyuk, D.O. Egoricheva, T.Y. Krusevich, L.B. Malanyuk, S.V. Ostroushka, L.P. Pilipey, T.B. Shugan and others. However, the issue of the impact of motor activity on students needs further research. To date, there are still controversial issues regarding the amount of load and the structure of motor activity, if the goal is not the development of individual physical qualities, not the achievement of sporting results, but the receipt of a well-being effect.

Results and discussion: In response to the reaction of the human body to physical activity, the first place takes the influence of the cerebral cortex on the regulation of the functions of the main systems: there is a change in the cardiorespiratory system, gas exchange, metabolism, etc. Physical exercises also lead to an increase in white blood cells and lymphocytes, which are the main advocates of the body in the path of infection. Physical exercises have an effect on breathing and ventilation of the air in the lungs, on the exchange of oxygen and carbon dioxide in the lungs between air and blood, on the use of oxygen in the tissues of the body. Any disease is accompanied by a violation of functions and their compensation, and physical exercises contribute to accelerating regenerative processes, oxygen saturation, plastic ("building") materials, which accelerates recovery. With diseases, the general tone decreases, in the cerebral cortex the braking state is deepened. Physical exercises increase the general tone, stimulate the body's defenses. There is a close relationship between the activities of the muscles and the internal organs. In the application of physical exercises, in addition to the normalization of the reactions of the cardiovascular, respiratory and other systems, the adaptability of the recovering to climatic factors is restored, human resistance to various diseases, stress, etc. is restored. With many diseases, properly dosed physical activity slows

the development of the painful process and promotes faster recovery of impaired functions. Youth inactivity practically without exception reflects a deviation of the state of health from the norm, therefore the disease is considered as a direct or indirect cause of their hypoactivity - the disease often leads to a decrease in the level of motor activity, which has a therapeutic effect, which reduces the functional capabilities of the body and thereby determines its hypoactivity.

Hypoactivity is determined (O. Bar-Or, T. Rouland, 2009) as a level of activity, lower compared to healthy peers with a similar sex, cultural and socio-economic group. Some diseases will restrict the ability to move and perform other exercises, a young person with asthma or diabetes can lead an active lifestyle, but often does not. Such an indirect limitation that affects motor activity is often combined with other factors, excessive parental care, the fear of a student or parents, inexperience of parents, teachers, and sometimes doctors, social isolation from peers - all this leads to hypoactivity. In some people, a decrease in the level of motor activity occurs during a short period of rest, associated with trauma, surgical operation or the aggravation of chronic illness. It can also be observed in healthy people who for some reason reduce motor activity.

Conclusions: Thus, under the influence of physical exercises, the structure and activity of all organs and systems of a person is improved, the working capacity increases, health becomes better. The low level of physical activity leads to hypoactivity, and this becomes part of a closed circle. Individuals with various health disorders sometimes perceive the same intensity of motor activity as higher in comparison with their healthy peers, and this may be another reason for their advantageous sedentary lifestyle.

BASIC PRINCIPLES AND TASKS OF ATHLETE'S NUTRITION

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Introduction: Modern sports are associated with great physical activity and considerable emotional stress of athletes. One of the most important tasks of contemporary sports is the timely determination of the functional state and changes in the musculoskeletal system of an athlete, making corrections to the training process and taking out restoration measures. Constantly growing requirements for the functional state of highly skilled athletes during training and competitive exercises stipulate the timely application of restorative measures, namely, balanced nutrition.

Material and method: The following methods are used to solve the problems: analysis of literary sources, induction and deduction, comparison and generalization

Results and discussion: The basis of development is the following fundamental principles based on the concept of balanced nutrition of A.A.Pokrovsky:

1. Provision of athletes with the required amount of energy corresponding to their expenses in the process of physical activity.
2. Following the principles of balanced nutrition in relation to certain types of sports and intensity of loads, including the distribution of calories according to the types of basic nutrients.
3. The choice of adequate forms of food (products, nutrients and their combination) during periods of intense loading, preparation for competitions, competitions and during the recovery period.
4. The use of inductive effects of nutrients to activate the processes of aerobic oxidation and complex phosphorylation, transglycosidase processes of biosynthesis of coenzyme forms,

ATPase reactions, accumulation of monoglobin and other metabolic processes, which are especially important for ensuring the exercise of physical activity.

5. The action of nutrients in order to create a metabolic background, beneficial for biosynthesis and the implementation of humoral regulators (catechins, protoglandins, corticosteroids, etc.).

6. Application of nutritional factors to provide increased speed of muscle buildup and increased strength.

7. The choice of adequate meals depending on the mode of training and competition.

8. Use of alimentary factors for fast “taking off” of weight when raising an athlete to a given weight category.

9. Development of the principles of individualization of food, depending on the anthropometric, morphological, physiological and metabolic characteristics of an athlete, a state of his digestive apparatus, his tastes and habits, allergenicity to individual nutrients and their complexes.

Nowadays, on the basis of many years of research, it is possible to formulate conditions for the use of food products, including biologically active food supplements and vitamin beverages for solving specific nutritional problems of athletes:

→feeding on a distance and between workouts;

→accelerating of the recovery processes of the body after training and competitions;

→regulation of water-salt metabolism and thermoregulation;

→correction of body weight;

→ directed development of the athlete's muscular mass;

→reduction of the daily ration during the competition period, change in the quality orientation of the daily ration depending on the orientation of the training load or in preparation for the competition;

→individualization of nutrition, especially in conditions of high nervous-emotional stresses;

→urgent correction of unbalanced daily rations;

→an increase in the multiplicity of nutrition in the conditions of multiple training.

Conclusion: The theoretical and practical experience of nutrition specialists testifies that in the conditions of modern sports of the highest achievements in connection with the need to accelerate the processes of recovery and increase of the performance of sports requires the use of special products. Nowadays it is possible to organize rational and balanced nutrition of athletes at different periods of training and competitions with the help of such products, taking into account their principles and conditions, taking into account individual characteristics at the level of modern requirements of the human nutrition science.

ROLE OF RECREATIONAL-HEALTH ACTIVITY FOR ELDERLY PEOPLE

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Introduction: Scientists and students involved in the problems of organization of healthy physical education are O. Andreyeva, T. Kruzevych , C. Manucharian, Y. Prystupa. In the researches they proved that regime of active motion improves the health, extends functional abilities, slows down the aging process.

Materials and methods: Such methods are used in: the analysis of professional literature sources, the method of analysis and generalization, induction and deduction, comparison and generalization.

Results and discussion: Recreational health activity provides power for exercises - not for intensive aerobic work in a gym, but elementary motions: walks in a park in fresh air, morning gymnastics, jogging. But if there are no clinical contraindications, then it is admissible to visit gym under guidance of an experienced coach. Physical exercises should be associated with positive emotions, otherwise there will be less efficiency. The exercise program, for elderly people, should be selected considering all the changes that take place with age, to avoid any harm for the organism.

Recreational health activity for elderly people can include such types of physical activities as: swimming, badminton, tennis, skiing, rowing and other. Also we should follow few recommendations to have benefits from the recreational health activity:

- while doing exercises, it is necessary to avoid sharp movements, to lift too large weight, to change position of a body too quick;

- during physical exercises it is unacceptable to hold up breathing, to strain, otherwise the wave of blood will be pressed in the heart, and also it will provide the risk of pulmonary emphysema.

The role of recreational health activity in life of elderly people depends on psychological capacities, social interaction and environment. Efficiency of recreational health activity as an integral system of sociocultural activity for elderly people highly depends on such factors as:

- financial and material support: the amount of pension, income;

- models of free time organization: advantages of traditional leisure time spending and technologies;

- professional staff: the presence of specialists who can provide realization of the various programs with elderly people;

- ethical and psychological aspects: social activity for elderly people, their interest in leisure activities, level of cultural queries and necessities;

- informative-methodical resources: a base of methodical literature, specialized magazines;

Recreational health activity should be oriented, first of all, on activation of the personal activity of senior people, forming their vital tone.

On the basis of such approach it is possible to distinguish such basic functions of recreational health activity for elderly people: maintaining the interaction with lots of people; satisfaction of requirement in recognition; improvement and support of the psycho-physical state; maintenance and strengthening of social activity .

Conclusion: Thus, recreational-health activity provides positive influence on a people's health and helps to delay an aging process.

SUDDEN CARDIAC DEATH IN A TEENAGER DUE TO ARRHYTHMOGENIC RIGHT VENTRICULAR DYSPLASIA: A CASE STUDY

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Introduction: Physical activity and sports are important resources in health promotion and in the prevention of various diseases.

Sudden cardiac death (SCD) is the leading cause of mortality in athletes during sport. A variety of mostly hereditary, structural, or electrical cardiac disorders are associated with SCD in young athletes, the majority of which can be identified or suggested by abnormalities on

resting 12-lead electrocardiogram (ECG).

Arrhythmogenic right ventricular dysplasia (ARVD) is a poorly understood and often underdiagnosed disorder of the right ventricle characterized by fibroadipose tissue, arrhythmic manifestations, and sudden death.

This study presents the first case of ARVD diagnosed retrospectively postmortem in Estonia.

Material and methods: Retrospective case analysis was done according to periodical health evaluation and autopsy.

Results: A 13-year-old boy participated in football training 3 times a week and in athletics training 4 times a week. The boy had not experienced any syncopes. Family history did not reveal any cases of sudden death at a young age. In June 2006, he underwent periodical health evaluation which included physical evaluation, anthropometric measurements, spirometry and an ECG exercise test. The results of the studies were within normal limits. The young athlete collapsed suddenly on April 30, 2007 shortly during football training. Cardiopulmonary resuscitation was started with delay at a local hospital but did not give any effect. His autopsy study revealed specific signs of ARVD.

In conclusion, clinicians must become more familiar with ARVD, which is a potentially fatal cardiac disorder that can create vulnerability within young athletes' population.

The preparticipation health screening of athletes is advised before beginning regular physical training and periodic health evaluation in competitive athletes. In addition, coaches have to acquire relevant knowledge and skills of resuscitation.

TUE ASPECTS TO ATHLETES IN REPUBLIC OF MOLDOVA

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Introduction: Calling for therapeutics exemption procedures is a solution for performance and amateur athletes with a view to the lawful use of banned substances or method included in the prohibited list. These may be used only for obvious reasons mentioned in the WADA International Exemption Standard for Therapeutic Use. A request for a TUE is examined by TUE Awarding Commission (TAC), which is designated by the Anti-Doping Agency.

Estimate the number of appeals from national athletes to the TUE procedure's during the years 2015-2017 and identify obstacles to its application.

Methods of research: The research was carried out by applying the ADAMS system in accordance with the confidentiality criterion, the evaluation of data held by the International and National Sport Federations regarding national athletes.

Results: During this period of time, the National Anti-Doping Agency of the Republic of Moldova has not received any official request regarding the TUE granting from performance athletes. At the same time, we mention that NADO Moldova, has all the technical procedures and offered consultations on TUE procedures about 89 athletes during the period

2015-2017y. Also, during this period, the International Sport Federations offered TUE to 4 athletes from the Republic of Moldova.

Conclusions: The study concerned that national athletes prefer to bear the physical, emotional and organic discomfort related to refuse of using the necessary preparations from the Prohibited List; a lack of athlete's staff who would help to simplify the Therapeutic Use Exemption procedures; low awareness and poor knowledge among performance athletes (35%) about the therapeutic use of banned substances from Prohibited list.

PREVENTION METHODS OF DOPING

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Introduction: It is known that the anti-doping process is a complex where doping prevention plays an essential role. Thus, the spirit of clean sport, professional ethics and awareness of national athletes is the essential element in promoting Olympic values. As a result, doping prevention actions cannot reduce only to the distribution of leaflets and commentaries about doping. The aim of the study was to evaluate anti-doping methods applied to national athletes

during the years 2016-2017 and to identify their effectiveness.

Methods of research: The research was carried out by applying the specialized WADA questionnaire, the use of on-line programs, the psycho-pedagogical methods of training and the evaluation of the obtained results within meetings with the national sports federations and the national athletes.

Results: The research found that the standard prevention methods used by the National Anti-Doping Agency in the Republic of Moldova in its assemblies have positive effects. Respectively, their conscious use and repetition leads to a favorable dynamic by reducing doping violations by national athletes, coaches and assistant staff. It has been found that specific prevention methods are effective for each particular group. Thus, for children, teenagers and young athletes, online programs are more beneficial, for adults---the specialized questionnaire and for the assistant staff and managers --psycho-pedagogical methods.

Conclusions: The study concerned:

The beneficial effect of teaching methods about doping damage in the National Federations depending on the present staff.

Periodic repetition of procedures and use of method combinations favors the effect of approximately 73% on the first session.

The presence of contact staff responsible for doping prevention in the Sports Federations reduces the number of doping violence.

RESULT MANAGEMENT

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Introduction: The assessment of testing results are evaluated when in biological samples of amateur and performance athletes have detected banned substances from the Prohibited List or the above mentioned athletes have used prohibited methods. The procedure for evaluating test results is specified in the International Result Management Standard adopted by WADA. In case of the positive result of the athlete, the athlete shall be suspended and notified. The goal of this study was estimation of the procedure for evaluating the results for national athletes during the period 2016-2017 and identifying the obstacles to its application.

Methods of research: The research was carried out by applying the ADAMS system with respect to the confidentiality criterion in domain of result management, the evaluation of the tests results conducted by the International and National Federations on national athletes.

Results: During this period of time, the National Anti-Doping Agency of the Republic of Moldova has obtained timely all the results of national performance athletes' tests, which were carried out in the framework of its own missions or missions of the International Federations. We mention that NADO of Republic of Moldova has delegated the result management procedures to the East European Anti-Doping Organization (EERADO) for a limited period of time. At the same time, during the period 2016-2017 y., there were 2 meetings with the representatives of the National Federations regarding the results management procedures.

Conclusions and recommendations: The study concerned:

A lack of competent staff among National Federations who would be fully aware of the results management procedures.

A tendency for refusal from positive athletes to recognize their own violations.

The desire to pass through all international Appeal Courts, indifferent by the violation found, which in turn into huge expenditures from the Moldovan state.

COLLABORATIVE MANAGEMENT OF PHC AND SPORTS MEDICINE SERVICES

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Introduction: Actually, collaborative management of Primary Health Care (PHC) and Sports Medicine services is an essential element in providing quality and durable assistance to

athletes. Therational co-operation between above-mentioned services will ensure the exclusion of excessive and repeated examinations and will allow more effective monitoring of the health of the athletes. At the same time, this management will contribute to the creation of a common database, efficient communication and faster intervention in emergency situations. The purpose of the study was to evaluate the collaboration between PHC and sports medicine in the field of healthcare provided to national athletes between 2016-2017 yy. and to identify its effectiveness.

Methods of research: The research was carried out by meta-analysis of the articles in the field, the orders of the specialized central authorities, using the specialized search programs and the evaluation of the results obtained during the meetings with the national sports federations and the national athletes.

Results: The research found that the degree of collaboration between PHC and sports medicine services was at the initial stage in Republic of Moldova. Correspondingly, the improving of service's collaboration will generate positive dynamics by increasing athletes' satisfaction inside of medical services and will exclude repeated examinations. At the same time, a permanent connection and direct communication between national athletes, coaches, assistant staff, sports doctors and family medicine will be established.

Conclusions:

The study found:

The beneficial effect of joint meetings of service representatives (PHC and Sports Medicine) within the National Federations through the increasing communication.

The informing PHC staff about the treatment algorithm in case of performance athletes will eliminate the duplication of support services.

Unification of databases and access routes between PHC and sports medicine services will improve communication and quality of assistance.

ANALYSIS OF TRAUMA PROBLEM IN SPORT GAMES

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Introduction: In modern professional sport there is a tendency of trauma danger connected with physical activities, in pursuit after effectiveness, desire to figure out attractiveness for leading sport clubs, teams etc. In general, sport trauma represents 10-17 % of all damages. The sportsmen of high level, suffering professional diseases and traumas, are forced to have 7- 45 trainings and 5-35 competitions a year. As the result, the amount of injured sportsmen who need stationary treatment after having been injured is about 10 % and 5-10% need surgical treatment.

There are certain specific traumas for every type of sport. According to the leading researchers, the most traumatic are sport games (causing the locomotor apparatus traumas). Success of recovering after a trauma and returning of a sportsman to trainings and competitions depends not only on the qualified conducted treatment but also on a correctly planned rehabilitation process.

Materials and methods: Such methods are used in solving of problems: the analysis of professional literature, the method of analysis and generalization, induction and deduction,

comparison and generalization.

Results and discussion: Sports injuries are leading factors that determine sport effectiveness and sport longevity. The reasons of traumas origin for sportsmen are various enough. Due to statistics, about 30,05% traumas caused by reasons of organizationally-methodical character and 69,95% - by individual features of sportsmen.

The carried out research of data in theme literature testifies that the organizational reasons of traumas origin are such as: the state of overtraining, lack of material-technical support; unsatisfactory sanitary-hygienic conditions; low quality of judging; drawbacks of theoretical and practical preparation of a coach. In addition, specialists in industry of sport traumatology constantly pay attention on the points of rules improvement during competitions as the means of trauma prevention.

As for the reasons of methodical character we focus on: abuse of general training principles (the gradual increasing of sport loading); errors of sport selection; lack of medical monitoring; an insufficient competence of a coach while using the exercises from other types of sport. The reasons of injuries are conditioned by the individual features of sportsmen: insufficient level of technique-tactic background, low level of physical experience; breaking of sporting rules; non-fulfillment of the general schedule. The main role of game types of sport after the general amount of traumas is non-random, it is connected, first of all, with their specific features: by the quick change of actions in accordance with the motion of a game, by the acceptance of quick and effective decisions on a spot. Next to physical activity, sportsmen in the playing types of sport feel extra nervously-psychological influence through emotional excitement.

These types of sport include the competition period and frequent moves of sportsmen in different climatic zones with the change of time zones, diet, and also participation in competitions without previous adaptation.

Undertaken studies testify that the sportsmen of playing types of sport mostly get the traumas of lower extremities (53,8 %). It concerns both team and individual sport. Along the traumas of upper extremities (18,3%) go backbone (13,2 %)and a head (9,8%).

Conclusion: Most of the sportsmen traumas in playing types of sport go with a musculoskeletal

system (about 67%) that related to the technical features and specific way of training and computational tendency of these types of sport.

INFLUENCE OF SPORTS QUALIFICATION ON SOME INDICATORS OF THE FUNCTIONAL STATUS OF FOOTBALL PLAYERS

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Introduction: Analysis of scientific literature reveals, that questions of functional readiness of football players are not well studied. The difficulty lies that in team sports it is optimal consistency activities of the various systems of the body, the quantitative characteristics of which are only possible with the complex diagnostics of the functional state of organs and systems.

Aim: to study the heart rate variability (HRV), central hemodynamics (CH) and physical performance (PP) of football players.

Materials and methods: Comprehensively studied the definitions of HRV, TC and PP of 73-football players, who were divided according to sport qualifications in four groups. First group included 14 football players with qualifications Master of Sports (MS), average age

27±1,36 years, experience of playing football – 17±2,0 years. Second group included football players with level Candidate Master of Sports (CMS) – 9 people, average age 20±0,93 years, experience of playing football – 10±1,33 years. Third – football players of the 1st qualifications – 34 people, average age 17±0,19 years, experience training – 8±0,51 years. Fourth – football players with qualifications II-III level – 16 people, average age 16±0,43 years, experience of playing football 7±0,74 years.

For the analysis of vegetative regulation of the heart activity time and frequency components of heart rate were used. Central hemodynamics as studied by automated tetrapolar rheography. Definition of PP was performed by standard technique on bicycle ergometer with usage of submaximal test PWC170.

Results: Comparison of HRV data of football players, varying in qualifications indicates the relative homogeneity of the average values of time and frequency indexes. Comparison of TC revealed that the average heart index (HI), of football players qualifications MS, CMS and 1st grade were barely discernable and corresponded to hypokinetic type of blood circulation (TC), while football players of the II-III-d level, it had eukinetic type of blood circulation. It is confirmed also in the analysis of the TC. So, football players of the level MS have ratio of the TC had the form: 78.6%: 21.4%, 0%, respectively, hypo-, eu- and hyperkinetic TC.

The football players of CMS qualifications have ratio the 77,8%:22,2%:0,0%, and football players 1st qualifications and qualifications II-III level, respectively, 61,8%:35,3%:2,9% and 25,0%:62,5%:12,5%.

Thus, if the hypokinetic TC is prevalent among the football players of the MS, CMS and 1st degree levels and in first two there are no sportsmen with hyperkinetic TC, then by decreasing of the sport qualification II-III degree, gradual decreasing of the number of sportsmen with hypokinetic TC and increasing with eukinetic and hyperkinetic TC is observed, which leads to prevalence of eukinetic TC among the sportsmen of II-III degree.

The average value PWC170/kg of the football players level MS and CMS, CMS and 1st qualifications did not differ among themselves and were respectively 20,45±0,65 vs. 19,17±0,69 and 19,17±0,69 vs. 18,18±0,54 kgm/min/kg ($p>0,05$). Significant differences PWC170/kg level p