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Scientific works on various topics of physical culture, the physical education of various groups of people, and the training of professionals have been assembled in this digest. A description is given of methods and means of training, specifics of athletic training, and the adaptation of the bodies of individuals of various ages to the process of physical training, the suitability of which is enhanced by pedagogical, psychological, methodological and biological experiments.

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ONTOLOGY OF THE DEVELOPMENT OF THE SPORTS LAW BRANCH

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Abstracts

Relevance of the Research Topic. The dynamic development of social relations, as well as the complication of the mechanisms of their legal regulation led to the numerous scientific discussions on the system and structure of law. This is primarily about the issue of identifying new branches of law. The modern stage of development of professional sports indicates the accumulation of a sufficiently large amount of specific features of building relationships in the field of physical culture and sports, which require their legal permission, which determines the need to form the field of sports law. ***The purpose of the research is*** to find out the necessity, validity and expediency of distinguishing the branch of sports law. ***Methods of research –*** the analysis of literary sources and the method of historicism. ***Results of the Study.*** The legal system has a complex, multi- level structure containing hierarchical relationships, the central element of which is a complex of fundamental branches of law: constitutional, administrative, civil, criminal law, and others. Besides the study of issues related to the need to identify new branches of law and secondary entities in the existing system of law, there being a scientific discussion. Sports law is a complex branch of law, a special combination of norms that make up a secondary integrated education. ***Conclusions.*** It was revealed that the organizational and legal problems of the management of physical culture and sports and the legal nature of forms of management as a whole remains fundamentally insufficiently studied. It is established that in the context of the emergence and formation of the sports law branch, the very essence of sport is regarded as a complex component of physical culture, its functions and significance as a community and social phenomenon in the structure of a particular state. It is established that a complete representation of this phenomenon and its fundamental justification can be achieved only from the position of the modern theory of systems.

Key words: system of law, sphere of physical culture and sport, branch of law, legal relations.

Марина Саннікова. Онтологія розвитку галузі спортивного права. ***Актуальність теми дослідження.*** Динамічний розвиток суспільних відносин, а також ускладнення механізмів їх правового регулювання призвів до численних наукових дискусій із приводу системи та структури права. Ідеться, насамперед, про питання щодо виокремлення нових галузей права. Сучасний етап розвитку професійного спорту свідчить про нагромадження досить великого обсягу специфічних особливостей побудови відносин у сфері фізичної культури й спорту, які вимагають свого правового дозволу, що й визначає необхідність формування галузі спортивного права. ***Мета дослідження*** – з'ясувати необхідність, обґрунтованість і доцільність виокремлення галузі спортивного права. ***Методи дослідження*** – аналіз літературних джерел та метод історизму. ***Результати дослідження.*** Система права має складну, багаторівневу структуру, що містить ієрархічні взаємозв'язки, центральним елементом якої є комплекс фундаментальних галузей права (конституційне, адміністративне, цивільне, кримінальне право й ін.). Навколо вивчення питань, пов'язаних із необхідністю виокремлення нових галузей права та вторинних утворень у системі права, існує наукова дискусія. Спортивне право – комплексна галузь права, особливе об'єднання норм, які становлять вторинне комплексне утворення. ***Висновки.*** Виявлено, що організаційно-правові проблеми керування фізичною

культурою й спортом і правова природа форм керування загалом у своїй основі залишаються недостатньо вивченими. З'ясовано, що в контексті виникнення й формування галузі спортивного права саму сутність спорту розглянуто як складний компонент фізичної культури, його функції та значимість як суспільно-соціальне явище в структурі конкретної держави. Установлено, що повного уявлення цього явища і його фундаментального обґрунтування можна досягнути лише з позиції сучасної теорії систем.

Ключові слова: система права, сфера фізичної культури та спорту, галузь права, правові відносини.

Марина Санникова. Онтология развития отрасли спортивного права. ***Актуальность темы исследования.*** Динамичное развитие общественных отношений, а также осложнение механизмов правового их регулирования привело к многочисленным научным дискуссиям по поводу системы и структуры права. Речь идет, прежде всего, о вопросе выделения новых отраслей права. Современный этап развития профессионального спорта свидетельствует о накоплении достаточно большого объема специфических особенностей построения отношений в сфере физической культуры и спорта, которые требуют своего правового разрешения, что и определяет необходимость формирования области спортивного права. ***Цель исследования*** – выяснить необходимость, обоснованность и целесообразность выделения отрасли спортивного права. ***Методы исследования*** – анализ литературных источников и метод историзма. ***Результаты исследования.*** Система права имеет сложную, многоуровневую структуру, содержащую иерархические взаимосвязи, центральным элементом которой является комплекс фундаментальных отраслей права (конституционное, административное, гражданское, уголовное право и др.). Вокруг изучения вопросов, связанных с необходимостью выделения новых отраслей права и вторичных образований в существующей системе права, идет научная дискуссия. Спортивное право является комплексной отраслью права, особым объединением норм, которые составляют вторичное комплексное образование. ***Выводы.*** Выявлено, что организационно-правовые проблемы управления физической культурой и спортом и правовая природа форм управления в целом в своей основе остается недостаточно изученной. Установлено, что в контексте возникновения и формирования отрасли спортивного права сама сущность спорта рассматривается как сложный компонент физической культуры, его функции и значимость как общественно-социальное явление в структуре конкретного государства. Установлено, что полное представление данного явления и его фундаментальное обоснование может быть достигнуто только с позиции современной теории систем.

Ключевые слова: система права, сфера физической культуры и спорта, отрасль права, правовые отношения.

Formulation of a research problem and its significance. The dynamic development of social relations, as well as the complication of the mechanisms of their legal regulation led to the numerous scientific discussions on the system and structure of law. This is primarily about the issue of identifying new branches of law. There are such among them: medical, agrarian, constructive, investment, sports, etc. [5; 8; 10]. This situation is understandable, because the mentioned dynamics of the complication of social relations is in a proximate causation with any particular internal and external factors of the development of society.

Numerous works of both domestic and foreign scholars are devoted to the study of individual aspects of the legal system. We should take note of particular importance of works by S. [2], Yevhrafov [5], O. Petryshyn [15], N. N. Onishchenko [16], and others. However, despite a wealth of scientific works, the problem of identifying branches of law attracts attention with new force and challenges the legal science from time to time.

The goal and the specific tasks of the article. The purpose of the research is to find out the necessity, validity and expediency of distinguishing the branch of sports law.

Methods of research. The following methods were used in the research: the analysis of literary sources in order to determine the state of the research topic, to formulate an understanding of the fundamentals of constructing a general theory of the process of forming a sports law branch; the method of historicism as a reflection of a variety of natural experiment in the development of systems that are self-organizing in order to analyze the proceeding processes, and on its basis, the determination of regularities, which allows to ensure the ability to observe the peculiarities of these processes.

Statement regarding the basic material of the research and the justification of the results obtained. The need to regulate legal relations in the field of physical education and sports undoubtedly covers the norms of various branches of law (civil, labor, economic, administrative, etc.), which result from a number of contradictions in such regulation and greatly complicates its effectiveness. Therefore,

the scientific position regarding the necessity of identifying the field of sports law in Ukraine and scientific developments regarding the substantiation of its subject and method of legal regulation are understandable.

The system of law is a complex, multilevel, united by a logical hierarchical interconnections organism, the central element of which is a complex of stable, immutable fundamental (primary, profile, basic) branches of law. Traditionally such branches of the theory of legal science recognize constitutional, administrative, civil, criminal law, which form the immutable base of the legal system [9; 14; 15]. At the same time, in the course of its development, on the basis of fundamental branches, separate structural units were isolated, which were transformed into secondary (derivative) branches of law: labor, land, family, financial law [2].

Even in the Soviet legal ideas the understanding of the fundamental (primary, profile, main) branches of law was confirmed, according to which they cover such types of social relations, which, in their deep economic, sociopolitical content, require a qualitatively peculiar, fundamental legal regulation and therefore determine the main, typical features of the legal toolkit [2; 4; 6].

Also, the abstract theorem established as the traditional one, according to which the field of law as elements of the law system differ on the subject of legal regulation, which to a large extent determines their peculiarities [9; 14; 15]. Although this criterion is the main one, it is not sufficient and unambiguous for the unconditional allocation of branches of law. This, primary, is due to the diversity and multi-levelness of social relations. The use of the subject of legal regulation as a criterion for the allocation of branches of law (as Alieksieiev argues) leads to the allocation of certain areas, broad areas of legal regulation (industrial law, agricultural law, etc.), which should also be regarded as a branch of law in this case [2].

That is why in the process of a systematic approach in law development, the theory of legal science came to the necessity of applying additional criteria in the allocation of truly special and individualized legal arrays that have all the necessary qualities of independent elements of the law system. It is commonly known that such additional criteria are: the method of legal regulation of social relations, principles and functions. The given criteria form and distinguish mechanism and the legal regime of the branch of law among other.

As Anufriieva pointed out, the category of the law system belongs to the general abstract legal phenomena, which are the broadest in scope and deep in content after the category of «the essence of law» [3]. In this regard, it is impossible to give an objective assessment of the need of immediate selection of a number of branches of law. Each of them requires a separate thorough study and an individual approach.

Coming back to the issue of the allocation of the field of sports law in Ukraine, it should be noted that the system of law is objective and reflects the level of development of social relations, in contrast to the system of legislation, which depends on the subjective factor - the activity of the legislator. A doctrinal thesis is also generally accepted. According to it the law system does not coincide with the legislative system, since the last one is much broader [15] and its internal organization does not and should not coincide with the structure of law. It is a matter of the fact that one or another field of law should not necessarily correspond to the field of legislation with a similar name, since they are formed on different grounds and their development is influenced by different factors. So, if the branch of law is a homogeneous social relationship, for the settlement of which one method of legal regulation is applied, then it is not necessary for the field of law. The subject of the legislation is formed by diverse social relations, united by one or another common aspect of legal reality, around which, in order for proper control, rules in the spheres of public administration, national economy, economic activities are unified. That is why the branches of the law apply several methods of legal regulation, one of which is the main one.

Within the framework of our research, it is important to draw attention on the theoretical construction proposed by S. Alieksieiev who in his publications, since 1975, repeatedly justified the concept of the division of the branches of law into traditional and integrated (secondary) [7]. Indeed, in his work «The Structure of Soviet Law» Alekseyev notes that it is worth considering such types of branches of law as basic and complex [2]. At the same time, the author explains: «complex fields are endowed with only a part of the signs and characteristics of the field of law and are a kind of 'layering' on the surface of the legal system.

Being extremely clear in terminology, the investigated legal formations should be called «semi-field». However their secondary, derivative character can be reflected in the word «complex», which, in conjunction with the term «field», indicates the peculiarities of these entities as such components of the Soviet legal system, which express one of the facets of a certain sphere of legal regulation.

In his fundamental scientific work 'The General Theory of Law' in 1981 Alieksieiev noted that «the complex education that emerges as a result of intersectional codification is formed at the branch level. They introduce a special legal regime of regulation, and there is no reprobation to call such education branches with the obligatory addition of the word «complex» [2]. Thus, analyzing the position of the author from the above mentioned issue, applying the term «complex field» refers not to the branch of law, but to the field of law. Moreover, explaining his opinion, the author emphasizes that «only integral ones should be considered in the formation of legal norms that are really objectified in the legal system and which, without violating the basic structure of law, exist as secondary legal formations».

Thus, returning to the possibility of understanding sports law as a complex field of law, it seems necessary to appreciate it as a special union of norms, which constitute a secondary complex education, since they do not form their own qualitatively peculiar, fundamental legal regulation and, accordingly, are not endowed with the main, typical features of legal instruments.

At the same time, the role of secondary complex entities in the system of law is important, since it allows us to outline a certain aspect of social relations. The application of the legal category «branch of law» to designate such entities is a consequence of the complexity of the multidimensional legal terminology, which is often used without a thorough analysis of the developments in the theory of legal science.

Within the framework of our research, the opinion of D. Azmi is reasonable and appropriate. The author believes that the constant allocation of individual branches of law and increase of their number is not perceived positively. However, it must be recognized that this process is caused by changes in the perception of legal reality, mentality, worldview, but not unconditional grounds for the selection of a particular branch of law [1].

Nowadays, sociopolitical and economic changes in all spheres of activity that have taken place in the world since the early 90's of the 20th century have intensified the problem of the legal nature of forms of physical education and sports management . Attempts to solve it are mostly private, what is mentioned in studies of individual issues. This leads to the need of considering the general laws of the formation of legal behavior in the structure of extremely complex social interconnected relationships, which are formed in the collective interaction and the corresponding social system of the state [13].

This is explained by the fact that the diverse needs of the citizens of society are limited. Due to the fact that we need more than spending time by oneself, this leads to the need for interaction with other people. Such interaction gives rise to the formation of the state. Its essence is to attract other people to meet the various needs of every individual. The need for communication with others in many respects leads to mutually determined common relations, fixed by the established legal forms of behavior.

In a stable system of relations we can talk about the statistical average of all the diversity of needs and their satisfaction. The whole set of needs for their satisfaction can be represented in the form of a ranked number of significance and degree of order in their interdependence.

The established system of formed relations preserved in their reproduction as a certain culture, which includes the achievements of mankind in the industrial, social and intellectual relations. In the structure of general culture, physical education, and sport as its component are considered to be factors to meet their needs in the holistic system of development of society, including the entire complexity of the differentiation of labor for its organization and management.

Professional sport as a branch of labor activity in a particular society is controlled by its legal basis. Professional sport, becoming a type of consumer activity, has no differences in its nature demand and its organization from any other professional activities. In this case, the essence of nature lies in the fact that the employee adapts to the activity, and not the activity to the employee. One, who is adept at the appropriate kind of sports professional activity, passes into the rank of professional sports, occupying the corresponding level in its hierarchy. In this case, sports are not just fun, but the tool for satisfaction of relevant needs, in particular entertainment of the audience.

The dynamics of entertainment demand and its structure completely depends on the commitment to the interests of the viewer, which determines the demand for the development of the appropriate kind of professional sport.

Regarding this, the viewer becomes the main factor in the economic provision of professional sports as a satisfying factor in their interests. Changing the popularity of entertainment by any kind of professional sport determines the coefficient of its competitiveness.

In general, the viewer chooses a kind of entertainment and acts as a «consumer». Different kinds of entertaining, which also includes professional sports, are «satisfying factor», which leads to a competition for the spectator. It occurs both between different professional sports, and in each clubs between its teams, and in general, all professional sport against other types of entertaining business. The complexity of these relationships is represented by the system «consumer-satisfying factor», whose behavior is described by the Lotka–Volterra equations, which requires careful examination of the variety of these relationships [5].

The needs of citizens that make up the society are diverse. The abilities of each particular type of entertainment are limited. There is a need for an interconnected agreement between the accomplice and the assistants, what generates the division of labor of workers who produce the product of entertainment exclusively from the point of view of consumers' interests. This indicates that professional sport does not represent in its organization any peculiarities in the construction of its legal basis.

Regulation of behavior in the structure of the general social relations that have developed in the Forms of government is determined by the rights in which sports law is formed as a fragment of civil, labor, administrative, criminal, criminal and other types of rights, as well as their branches.

The current stage of development of this industry of entertainment business has led to the accumulation of quite a large amount of specific features of building relationships in physical education and sports, which require their legal permission, which determines the need for the formation of sports law.

All the diversity of forms of relations in the structure of competition, which arises in the professional sports that entered the entertainment business, is actually generated by the dichotomous form of constructing the encountered imperatives. We can be observed features of emerging forms of the relationship in the ranked image of their interests in the validity of the opposition, the duration of its process and the territorial location in the ordered distribution in the appropriate scales of semantic spaces [11].

In each section of these kind scales reflecting the distribution of forms of predetermined relationships, there are its features of constructing their legal regulation, based on the partial correlation of the dichotomous contradictions of the conflicting imperatives expressed by the corresponding sovereigns. Naturally, that all these features dictate the need for the emerging field of sports law and the development of appropriate research methods.

Analysis of the research into this problem. Developed legal system is a complex multilevel mechanism, elements of which are combined with each other by rigid static and flexible dynamic links. At the same time, we share the opinion with D. Azmi [1] and Yevhrafov [5], that no matter how ramified this system is, the core (a system of law that is objectively existing and constantly complicated) should stay stable and indestructible. In the case of sports law it would be wiser to speak about the objective existence of the field of legislation and to solve the problems of legal regulation of social relations in the field of physical education and sports through the prism of the structure of legislation [13]. The scientific discussion on the subject under research is evidence that the system of law is a complex phenomenon of legal reality and requires further in-depth study.

In modern legal literature, not only different opinions about elements of the system of law are expressed, but even opposite: from the isolation of the so-called complex branches of law to the complete denial of the existence of its internal structure. Thus, Yampolska [18] believes that «the branch of law can not be considered an internal unit of legal matter. Such a unit, the main element is the rule of law in force, that acts, regulates, lives in legal relationships. The legal matter is integral, the only one, and its branch is not a field, but a rule of law. « This position was supported in the publications of some authors [6; 17].

As Alieksieiev rightly pointed out, the essence of the problem consists in the fact that in the literature one term «branch of law» refers to two apparently similar, but different in its content phenomenon. In some cases, it is about the scope of legal regulation - any set of legal norms, which is allocated on the subject of

regulation; in others - the real, objectively determined and existing element of the integral system - the right as a single structural entity [2]. The above thesis is extremely accurate in the context of consideration of the issue of the allocation, in particular, of the sports law of Ukraine.

The results of our study supplement the results of scientific research, presented in the works of O. Petryshyn [15], N. Onishchenko [16] concerning the general theory of state and law.

Conclusions and prospects for further research. It was revealed that the organizational and legal problems of the management of physical culture and sports and the legal nature of forms of management as a whole remains fundamentally insufficiently studied. This raises the task of consistently orderly reviewing the essence of legal regulation, the nature of law and legislation, the essence of power and the sovereign that personifies them. All these concepts are related to the interdependence of relations among people and are expressed in the structure of their needs in mutual services and their exchange.

It is revealed that in the context of the emergence and formation of the field of sports law the very essence of sport is considered as a complex component of physical education, its function and significance as a social phenomenon in the structure of a particular state. It is identified that a complete representation of this phenomenon and its fundamental justification can be achieved only from the point of view of modern system theory.

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CRITERIA OF CHRONOLOGY OF THE PSYCHOSOMATIC SYSTEMS HISTORY

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Abstracts

Topicality. In previous studies it has been established that for the qualification of systems and exercises of complex regulation of the human body's general condition by means of physical and psychic activity, the «psychosomatic systems» and «psychosomatic exercises» terms are optimal, also the criteria of the chronology history of which are a poorly researched link of physical culture. ***Formulating the research problem.*** Proceeding from the fact that psychosomatic systems are an integral part of human culture, it was assumed that the chronology of the historical development of psychosomatic systems coincides with the periodization of mankind`s history, culture, and physical culture. It has been established that the humanity physical culture history periodization is based on geological, morphological, socio-economic, genetic, archeological and other principles that define it unambiguously and need improvement. ***The purpose of the research*** is to determine the optimal criteria for the history chronology of psychosomatic systems. ***The methods of the research*** are historical, logical, and theoretical analysis of information sources. ***The results of the research.*** It is established that periodization`s principles, as the general history of mankind and its components, in particular, physical culture, are based on a number of criteria such as humanity gradual morphological evolution, tool types changes, forms of socio-economic relations, availability of writing script, having a number of disadvantages. The basic criterion of the general physical education history chronology was revealed. ***Conclusions.*** The optimal basic criterion for the history chronology of psychosomatic systems and physical culture is the time period relative to the limit, which determines two periods: the I period – to our era (from ... to the end of the 1st century BC); the II period is our era (from the beginning of the 1st century AD to the present). Further research on the characteristics of ancient psychosomatic systems of different cultures will be planning.

Key words: criteria of chronology, history of physical culture, psychosomatic systems.

Олена Твердохліб. Критерії хронології історії психосоматичних систем. ***Актуальність.*** У попередніх дослідженнях установлено, що для кваліфікації систем і вправ комплексної регуляції загального стану організму людини засобами тілесної й психічної активності оптимальними є терміни «психосоматичні системи» та «психосоматичні вправи», критерії хронології історії яких є малодослідженою ланкою фізичної культури. ***Постановка проблеми.*** Виходячи з того, що психосоматичні системи є складовою частиною загальнолюдської культури, припущено, що хронологія історичного розвитку психосоматичних систем збігається з періодизацією історії людства, культури, фізичної культури. Установлено, що періодизація історії фізичної культури людства ґрунтується на геологічних, морфологічних, соціально-економічних, генетичних, археологічних та інших принципах, які неоднозначно визначають її і потребують удосконалення. ***Мета дослідження*** – визначити оптимальні критерії хронології історії психосоматичних систем. ***Методи дослідження*** – історичний і логіко-теоретичний аналіз джерел інформації. ***Результати дослідження.*** Установлено, що принципи періодизації як загальної історії людства, так і її складників, зокрема фізичної культури, ґрунтуються на низці критеріїв, таких як поступова морфологічна еволюція людства, зміни в характері знарядь праці, види суспільно-економічних відносин, наявність писемності, які мають численні недоліки. Виявлено базовий критерій загальної хронології історії фізичної культури. ***Висновки.*** Оптимальним базовим критерієм хронології історії психосоматичних систем і фізичної культури є термін часу відносно межі, що визначає два періоди: I – до нашої ери (із ... до кінця 1 ст. до н. е.); II період – нашої ери (із початку 1 ст. н. е. до сьогодні). Плануються подальші дослідження характеристик давніх психосоматичних систем різних культур.

Ключові слова: критерії хронології, історія фізичної культури, психосоматичні системи.

Елена Твердохлеб. Критерии хронологии истории психосоматических систем. ***Актуальность.*** В предыдущих исследованиях установлено, что для квалификации систем и упражнений комплексной регуляции общего состояния организма человека средствами телесной и психической активности оптимальными являются термины «психосоматические системы» и «психосоматические упражнения», критерии хронологии истории которых являются малоисследованным звеном физической культуры. ***Постановка проблемы.*** Исходя из того, что психосоматические системы является составной общечеловеческой культуры, предполагается, что

хронология исторического развития психосоматических систем совпадает с периодизацией истории человечества, культуры, физической культуры. Установлено, что периодизация истории физической культуры человечества базируется на геологических, морфологических, социально-экономических, генетических, археологических и других принципах, которые определяют ее неоднозначно и требуют совершенствования. ***Цель исследования*** – определить оптимальные критерии хронологии истории психосоматических систем. ***Методы исследования*** – исторический и логико-теоретический анализ источников информации. ***Результаты исследования.*** Установлено, что принципы периодизации как общей истории человечества, так и ее составляющих, в частности физической культуры, основанные на ряде критериев, таких как постепенная морфологическая эволюция человечества, изменения в характере орудий труда, виды общественно-экономических отношений, наличие письменности, которые имеют ряд недостатков. Обнаружено базовый критерий общей хронологии истории физической культуры. Выводы. оптимальным базовым критерием хронологии истории психосоматических систем и физической культуры является период времени относительно границы, определяет два периода: I – до нашей эры (с ... до конца 1 в. до н. э.); II период – нашей эры (до началу 1 в. н. э. до современности). Планируются дальнейшие исследования характеристик древних психосоматических систем различных культур.

Ключевые слова: критерии хронологии, история физической культуры, психосоматические системы.

Introduction. The previous studies concluded that the terms «psychosomatic systems» and «psychosomatic exercises» are optimal for the qualification of systems and exercises used for general condition regulation by means of physical and psychic activity complex, they provide terminological consistency between branches of medicine, pedagogy, physical culture and sport [1].

The history of religious systems was studied by J. Bowker, M. Eliade, A. Menj, A. Fantalov, which, in their opinion, emerged and evolved along with humanity. The history of physical culture was investigated [2–6], I.K. Popescu, SM Filj, O. M. Khudolii, G.V. Malka and others. National history systems of Ukrainian psychophysical education – A. Tsiosj, E. Pristupa, V. Levkiv, V. Starkov, N. Dedeliuk and others. The general history of the psychosomatic systems development, as an integral part of human history, is a poorly researched branch of physical culture (O. Watseba). Based on the fact that psychosomatic systems are an integral part of human culture, it was assumed that the chronology of psychosomatic systems coincides with the periodization of the mankind history, general and physical culture.

The goal and the specific task of the article is to define the optimal criteria for the history chronology of the psychosomatic systems.

The methods of the research are historical, logical, and theoretical analysis of information sources.

Research results. Among the criteria of general history and culture chronology, origins of the writing, according to which history is divided into two periods: prehistoric and historical, take one of the central places. Our view is that in regard to psychosomatic systems, this chronological criterion is not optimal, since the limits of writing timeline are endless. Even nowadays there are ethnic groups who do not have a written language.

There are more than a dozen scientific theories based on the morphological principles of anthropogenesis (S.V. Smirnov). The most widespread is the one, that was formed in the middle of the 19th century. According to it the evolution of mankind began in the period from 4–2,5 million to 700–100 thousand years ago and had five stages, each of which corresponded to a certain type human–like primates: Australopithecus (4–1 million years ago); Pithecanthropus or Javanese man (800–500 thousand years ago); Synanthrop (460–230 thousand years ago); Neanderthal man (200–35 thousand years ago); Cro–Magnon or Homo sapiens (40 thousand years ago). According to modern studies, the theory of anthropogenesis has many inconsistencies of morphological, zoogeographical, geological, genetic and of general biological order: modern representatives of different races evolved from a single African genetic root [7]; South African Australopithecuses, the Javanese and Peking men and Neanderthals are not direct ancestors of the Homo sapiens; the chronological boundaries of the anthropogenesis go back 2800 million years ago, and the territorial boundaries extend to all inhabited continents [8].

According to the criteria based on changes in the nature of the working tools and physical type of people, the history of mankind is divided into stages: the Paleolithic or Stone Age (3–2 million – 10 thousand BC), which is devided in the early Paleolithic (3–2 million – 35 thousand BC), consisting of Dachshund (3 million – 500 thousand BC), Shelsk (500–300 thousand BC), Achilles (300–150 thousand BC) and Mousterian (150 – 40–35 thousand BC) era; Late Paleolithic (40 – 35 – 10 thousand BC), consisting of Origen era (40–30 thousand BC), Solutra (35–25 thousand BC) and Madelin (25–12 thousand BC); Mesolithic (10–5,000 BC), Neolithic or new Stone Age (8–3,000 BC), Chalcolithic or Bronze Age (4–

3,000 BC) , bronze age (3–1000 BC), iron age (from 1 thousand BC) [9]. Modern studies deny, the above mentioned dates of the beginning of human labor, dating it 2800 million years ago [8], as well as the boundaries of the history of mankind stages – some of its representatives still use stone tools of labor.

According to the Marxist periodization of labor means ownership, the history of mankind is divided: on the primitive communal system (the collective usage of labor means), the slavery (formed between 4–3 thousand BC), feudal (arose in 5 – 9 centuries.), capitalistic (originated in the 14th–15th centuries), socialistic, and so on. The periodization, guided by the production activity, offered by Henry Morgan in 1877, divides the primitive era into: the stage of hunting, farming and animal husbandry, periods of savagery, barbarism and civilization. Based on the fact, that today there are still various social activities such as hunting, agriculture and cattle breeding, in our opinion, the criteria of ownership forms for labor and production activities do not suit the general chronology of the physical culture history. The specialists [1–6 and others] distinguish the history of physical culture in periods based on three principles: the theory of the humanity evolution by Charles Darwin, the nature of the labor instruments and the types of socio–economic relations.

The forms of physical culture in [3] are determined by the form of social and economic relations, and the subject of the physical culture history are general laws of the emergence and development of physical culture and sports at various stages of the existence of human society, means, forms and methods, ideas, theories and systems of physical culture, education, training, preparation for work and military activities. In the primitive society, the consciousness and spiritual world of the ancient people, in his opinion, played an important role. Before hunting or military activities, certain magical movements were performed. Religious ceremonies, games, initiations (transition from one age group to another or accepting members to the community), dances accompanied by music and choral singing from the people of the north (4–2,000 BC) Greece and Rome (3 – 2 thousand BC), the Scythians (7 – 1 centuries BC) were widely practiced; in the Middle Ages, yoga in India, in China – wushu, Japan – samurai busido, sumo, jiu–jitsu, karate, kendo; in America (12th–15th centuries) – religious ceremonies, ritual dances, acrobatic exercises and competitions, in Africa – dances with the sounds of tamtas.

According to [4], physical culture as a specific sphere of social activity was formed in ... 80000 – 800 BC, and its image in fine art began to form with the cult servings of Sumer (New Year ritual competitions in honor of God Marduk 4 Thousand BC) and Ancient Egypt (relief of Pharaoh Djoser running, around 3,000 BC), although it leads to earlier cult images of Europe from the caves of Troyes Frer 15,000 BC. e. and Pes–Merl 20 –15000 BCE. e., on bronze vessels from Kuffner 6 thousand BC and Vas 5,000 BC. He presents the history of physical culture dating from 150,000 BC and notes that in 40000 BC magical rituals were practiced. In the Mesolithic and Neolithic period (8000 – 3000 BC), yoga dance and meditation based on beliefs related to fertility are put forward in the foreground, and the attention of the initiation ceremonies is focused on the forms of movements in combat training. Martial arts served as a forces and foresight test before the fight, symbolized the invincibility and the physical power of the community heroes. The one–on–one challenge with the rival served as the same goal. During the development of the patriarchal society, preparations were made for the ceremony of warriors consecration. There were permanent ritual centers, and the tribal communities conducted the ceremony of initiation and election of the tribal leader. In the era of transition from the primitive to the classsociety, arose an aesthetic ideal of the hero, who possessed supernatural physical and spiritual forces. He fought with other forces and got the mystery of these forces for humanity usage (Gilgamesh of the Babylonians, Osiris of the Egyptians, Great Yu of the Chinese, Hercules in Greeks, Siegfried of the Germans, Ceshar in the Tibetans, Rustem in Persians). In the period of 4 thousand BC – 476 AD the content of physical education was characterized by the dense interweaving motives of movements with magic, mysticism, religion, medicine, education, military and other functions. From 3 thousand BC in India yoga exercises that were based on the traditions of rational magic were cultivated. It evolved into a mysterious system of movements, the highest levels of which were only available to the consecrated. In the 2nd c. B.C. yoga exercises were used in balneotherapy, and mental concentration exercises – in the professional–applied training of doctors, military men, and arts. In 3 thousand BC in China, a kung fu system was formed, which included medical and combat exercises, gymnastics, massage, dancing, pantomime. Starting from the 6th century B.C. Daoist schools practiced nei kung – passive movements in a turkish sitting position, tao chin – active movements along with respiratory therapies that cured disease and weakness, developed strength and strength, kung tzu – therapeutic gymnastics, which was based on stretching and relaxing exercises and the principles of balancing the pair of

oppositions, which was developed by the Daoist doctor Hua Te on the basis of animals and birds observations. In 2 thousand BC on Crete island public ceremonies, initiations, ritual dances, acrobatic exercises and jumps around the bull were cultivated. The history of physical culture is presented by the author in fragments: 4 thousand BC – 476 AD – Mesopotamia, Egypt, India, China; 2 thousand BC – 6th c. AD – Ancient Greece; 8 cent. B.C. – 476 AD – Ancient Rome; 5 – 18 centuries. – Europe; 3 – 17 centuries. – India, China, Japan, America (Aztecs, Maya, Inca); 18th – 20th centuries – world history of modern times; since 1917 – the new era.

The chronology of the physical culture history according to such criteria as gradual morphological evolution of mankind, changes in the nature of the labor tools, types of socio–economic relations and the availability of writing, do not cover the general psychosomatic systems. According to the statements of physical culture historians, it is given a place in the time interval from the prehistoric period to the Middle Ages. In the later times they are mentioned in connection with the "primitive" tribes of our time. Magical movements and rituals refer to "primitive times", although they are still practiced. In ancient times, as wel as today, the techniques of psychosomatic systems of religion, yoga, qigong, oriental martial arts and others are still practiced.

Conclusions and prospects for further research. The study found that chronology, as a general history of mankind, and its component in the field of physical culture, is based on a number of criteria, such as the gradual morphological evolution of mankind, changes in the nature of tools, types of socio–economic relations, the availability of writing, which are not perfect for it`s description. The optimal basic criterion for the chronology of the psychosomatic systems and physical culture history is the time classification that determines two periods: the period – before our era (... up to the end of 1 century BC); II period – our era (from the beginning of 1st century AD to the present). We plan to conduct further researches on the characteristics of ancient psychosomatic systems of different cultures.

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INTRODUCTION OF A SPECIAL COURSE AS AN ELEMENT OF PROFESIONAL TRAINING OF FUTURE SPECIALISTS IN PHYSICAL EDUCATION AND SPORT

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Abstracts

Actuality. Today, in the context of reforming secondary education, the «New Ukrainian School» traditionally remains a strategic priority at the state level to preserve the health of the population. To address this issue, it is necessary to strengthen the professional training of specialists in physical education and sports in higher education institutions, taking into account new requirements. In this connection, it is necessary to create appropriate conditions that promote the formation of the students' need for self-introduction of a healthy lifestyle, improve skills and abilities, accelerate the development of the personality of the student who wants to achieve a high professional level, change the ideological positions of the individual, make the student seriously, responsibly and creatively ways to attract citizens to a healthy lifestyle. ***Aim.*** To develop the program in a special course «Formation of a positive attitude towards a healthy lifestyle of citizens», which will promote the formation of professional competencies in students of physical education. ***Material and methods.*** 60 students of III–IV courses, specialty 017 «Physical culture and sports», 014.11. «Secondary education (Physical culture)» of the faculty of physical education Central Ukrainian-Ukrainian Pedagogical University named after Volodymyr Vynnychenko were involved in the special course. During the research the methods of theoretical knowledge and specific scientific. ***Results.*** The program is presented to the special course «Formation of a positive attitude towards a healthy lifestyle of citizens», its structure and content are revealed, methodical recommendations are developed, as well as pedagogical conditions, which will promote the acquisition of professional competencies. ***Conclusions.*** Introduction of the special course «Formation of a positive attitude towards a healthy lifestyle of citizens» in the process of training physical education specialists in higher education institutions will enhance the acquisition of professional competencies, the proposed action algorithm will help to acquire the necessary practical skills and carry out the transfer of knowledge from the learning situation to professional activities.

Key words: healthy lifestyle, students, professional competence, special course, physical education and sports.

Вікторія Бабаліч. Упровадження спецкурсу як елемент професійної підготовки майбутніх фахівців фізичного виховання й спорту. ***Актуальність.*** Сьогодні в умовах реформування середньої освіти «Нова українська школа» традиційно залишається стратегічним пріоритетом на державному рівні збереження здоров'я населення. Для успішного вирішення цього питання потрібно підсилити професійну підготовку фахівців фізичного виховання й спорту у вищих освітніх закладах з урахуванням нових вимог, у зв'язку з чим потрібно створити належні умови, що сприятимуть формуванню потреби в студентів до самостійного впровадження здорового способу життя, удосконалять навички та вміння, прискорять становлення особистості студента за високим професійним рівнем, змінять світоглядні позиції особистості, змусять студента серйозно, відповідально й творчо підходити до шляхів залучення громадян до ведення здорового способу життя. ***Мета статті*** – розробити програму до спецкурсу «Формування позитивного ставлення до здорового способу життя громадян», що сприятиме формуванню професійних компетентностей у студентів фізкультурного профілю.

Матеріал і методи. До спецкурсу залучено 60 студентів III–IV курсів спеціальності 017 «Фізична культура і спорт», 014.11 «Середня освіта (Фізична культура)» факультету фізичного виховання Центральноукраїнського державного педагогічного університету імені Володимира Винниченка. Під час дослідження застосовано методи теоретичного пізнання й конкретно-наукові. ***Результати роботи.*** Представлено програму до спецкурсу «Формування позитивного ставлення до здорового способу життя громадян», розкрито її структуру й зміст, розроблено методичні рекомендації, а також визначено педагогічні умови, що сприятимуть оволодінню професійними компетентностями. ***Висновки.*** Упровадження спецкурсу «Формування позитивного ставлення до здорового способу життя громадян» у процес підготовки фахівців фізичного виховання у вищих навчальних закладах підсилить набуття професійних компетентностей, запропонований алгоритм дій дасть змогу опанувати необхідні практичні навички й здійснювати перенесення знань із навчальної ситуації в професійну діяльність.

Ключові слова: здоровий спосіб життя, студенти, професійна компетентність, спецкурс, фізичне виховання та спорт.

Виктория Бабалич. Внедрение спецкурса как элемента профессиональной подготовки будущих специалистов физического воспитания и спорта. ***Актуальность.*** Сегодня в условиях реформирования среднего образования «Новая украинская школа» традиционно остается стратегическим приоритетом на государственном уровне сохранения здоровья населения. Для успешного решения этого вопроса необходимо усилить профес- сиональную подготовку специалистов физического воспитания и спорта в высших учебных заведениях с учетом новых требований, в связи с чем необходимо создать надлежащие условия, способствующие формированию потребности студентов к самостоятельному внедрению здорового образа жизни, усовершенствуют навыки и умения, ускорят становление личности студента, желающего достичь высокого профессионального уровня, изменят мировоззренческие позиции личности, заставят студента серьезно, ответственно и творчески подходить к путям привлечения граждан к ведению здорового образа жизни. ***Цель статьи*** – разработать программу к спецкурсу

«Формирование позитивного отношения к здоровому образу жизни граждан», которая будет способствовать формированию профессиональных компетентностей у студентов физкультурного профиля. ***Материал и методы.*** К спецкурсу привлечены 60 студентов III–IV курсов, специальности 017 «Физическая культура и спорт», 014.11 «Среднее образование (Физическая культура)» факультета физического воспитания Центрального государственного педагогического университета имени Владимира Винниченко. Во время исследования использовались методы теоретического познания и конкретно научные. ***Результаты.*** Представлена программа к спецкурсу «Формирование позитивного отношения к здоровому образу жизни граждан»; раскрываются ее структура, содержание; разработаны методические рекомендации, а также определены педагогические условия, способствующие овладению профессиональными компетентностями. ***Выводы.*** Внедрение спецкурса «Формирование позитивного отношения к здоровому образу жизни граждан» в процесс подготовки специалистов физического воспитания в высших учебных заведениях усилит приобретение профессиональных компетентностей. Предложенный алгоритм действий поможет овладеть необходимыми практическими навыками и осуществлять перенос знаний из учебной ситуации в профессиональную деятельность.

Ключевые слова: здоровый образ жизни, студенты, профессиональная компетентность, спецкурс, физическое воспитание и спорт.

Introduction. The main task of the present day is to develop the ability to learn and appreciate the life and health of the individual, to see things from the eternity of the relationship, the possibilities to know the best facets of his soul, to identify them and apply them in favor of others. However, it should be noted that the awareness of the value and significance of health cannot indicate to the existence of an ideology of health, if these ideas did not penetrate in all areas of society's life. It is necessary to carry out a scientific research and to develop methodological and organizational approaches to the preservation of health, the formation and strengthening of a healthy lifestyle [1, p.13].

So today, the state faced the issue of forming health at the individual level, and on the public - the value of health of each individual citizen and the health of the whole country. The state health care is provided by a number of legal documents: the Constitution of Ukraine, Fundamentals of the Legislation of Ukraine on Health Care, the Law of on Ensuring Sanitary and Epidemic Safety of the Population, the Convention on the Rights of the Child, the Concept of National Education Policy. In the Article 3 of Constitution of Ukraine is stated that «The human being, his or her life and health, honor and dignity, inviolability and security are recognized in Ukraine as the highest social value» [10, p.4].

As mentioned above, there is an urgent need to involve as many specialists as possible in the process of forming a healthy lifestyle, including the field of physical education and sports. After all, the encouragement of a healthy lifestyle at the scientific and practical levels, which is conducted today, is largely not perceived by young people. It can be said about a vacuum that needs to be filled in personally significant guidelines. Therefore, the training of specialists in the faculty of physical education must be filled with such guidelines, which will promote: the formation of personal and professional values, socio-psychological properties, qualities; professional development, self-realization; the emergence of desires, motives, interests for acquiring personal experience and the needs for forming a positive attitude towards a healthy lifestyle of citizens.

Scholars such as G. M. Bevz [2], V. I. Bobrytska [3], O. V. Vakulenko [4], M. S. Goncharenko [5], M. T. Danylko [6], A. D. Dubogai [7], D. S. Yeliseeva [8], G. I. Ivanova [9], A V. Polulyakh [11], L.P.Sushchenko [12] insist on the necessity to create a holistic system, development of health-improving technologies that will provide professional training of specialists in physical education and sports, in relation to the formation of a healthy lifestyle. The works of these scholars have become a definite pedagogical foundation for the development of our course.

Connection of the research with scientific programs, plans, themes. This research is undertaken in accordance with the plan of research work of the Department of Theory and Methodology of Olympic and Professional Sport of the Volodymyr Vynnychenko Central Ukrainian State Pedagogical University «Formation of Adaptation to the Teaching Load of Youth by Physical Education», state registration number №0116U005281.

The purpose of the research is to develop the program in a special course «Formation of a positive attitude towards a healthy lifestyle of citizens», which provides purposeful, scientifically grounded training of students of the physical education to the dissemination of healthy lifestyle ideas in future professional activities.

To solve this problem, we set *the task* to encourage the involvement of specialists in physical education and sports in promoting a healthy lifestyle in professional life. In this regard, it is important to solve the issue of organizing practical professional activities of future teachers of physical culture, sports trainers who will work in different educational institutions (gymnasium, lyceum, collegium, secondary school, sports school, boarding schools, social rehabilitation schools, etc.).

Thus, the main idea of the research is based on the understanding of the formation of professional competence of future specialists in physical education and sports as a system that has the purpose to ensure the effective promotion of a healthy lifestyle, which involves the continuous integration of health-improving technology, productive cooperation with students and parents (team work) and with different social groups, application of information and communication tools; orientation in the problems of modern socio-political life in Ukraine; adherence to standards of pedagogical ethics; the ability to critically analyze and evaluate their activities; mastering of techniques (level of personal and professional qualities, organizational and communicative abilities, knowledge and skills), ability to use these resources (flexible technologies, differentiated approach).

Educational work of specialists in the physical education should comprehensively promote the health of the population, be aimed at solving the problem of improving health, as well as attracting people to self-help and mutual assistance. Programs and projects for the introduction of health among citizens should be practically implemented in educational institutions, enterprises and medical institutions.

Material and methods of research. The research was conducted among 60 students of III-IV courses at the Faculty of Physical Education of Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, specialty 017»Physical culture and sports», 014.11.Secondary education (physical culture). The research was used the methods of theoretical knowledge (analysis, generalization, comparison, systematic approach) and specific scientific (analysis of literature and state nomenclature documents, surveys (questionnaires), modeling). In order to study the condition of willingness of students of the physical education to promote a healthy lifestyle in future professional activities and develop a special course program.

Research results. Discussion. A survey was conducted in order to define the willingness of students of III-IV courses (n = 60) to disseminate the ideas of a healthy lifestyle among citizens, as well as the introduction a special course. The questions are divided into three parts, which is compiled by the author. Parts are presented in the form of closed-form questionnaires. The first part contained questions that helped

establish the level of students' knowledge of the conceptual-categorical apparatus, the fundamentals of a healthy lifestyle. The second part helped determine the level of motivation and the third is the willingness of students to form a positive attitude towards a healthy lifestyle of citizens.

The conducted survey showed that most students formed the idea of the main conditions of the phenomenon under investigation (76.6%). In general, a healthy lifestyle is perceived as a system of rules that must be followed. Among the motivational factors that lead to such activities are considered the need to feel themselves necessary, competent, that their advice will be useful and will help solve a number of issues related to the formation of a healthy lifestyle. According to the results of the survey, 7 students (11.7%) have a level below the average, 15 students (25%) have an average level, 33 students (55%) have a sufficient level of motivation and only 5 students (8.3%) have a high level of motivation.

Willingness indexes were slightly worse. Describing the answers to the questionnaire specifies the students' confusion. The manifestation of which there are certain doubts, such as «Where do you get started?», «What is the sequence of actions?», which affected the willingness indexes. Accordingly, 16 students (26.7 %) have below the average level of willingness, 23 students (38.3 %) have an average level, 19 students (31.7 %) have a sufficient level and only 2 students (3.3 %) have a high level of willingness. In general, during the questionnaire, students demonstrated some lack of knowledge, incompetence, lack of understanding about the need to form a positive attitude towards a healthy lifestyle of citizens.

We consider that in the times of such a common problem as sedentary lifestyle, when in the priority of young people are not physical activity but communication in the Internet, the use of gadgets and other products of modern civilization that negatively affects a healthy lifestyle, the question of the multiplicity of professional activity of the teacher of physical culture and sports coach is actualized. So in order to attract the attention of the world community to this problem, researchers[13] have created a new basis for understanding the interactions between physical activity (sports forms of physical activity) and various aspects of human development. In connection with what is offered, the results of physical activity are selected as differentiable «capital», representing investment to specific areas of assets: emotional, financial, individual, intellectual, physical and social. It is emphasized that such investment should be made in early childhood.

Scientists from different fields involve young people in active physical activity. R. Fernandes, A. Zanesco [14] believe that early physical activity promotes lower prevalence of chronic diseases in adulthood. I. Janssen, A. LeBlanc [15] systematized the benefits of physical activity and physical load at school for children and youth. Scientists R. Ryan, E. Deci have developed a self-determination theory and facilitation of intrinsic motivation, social development, and well-being. [16]. Given such a negative trend, World Health Organization (WHO) has developed global recommendations on physical activity for improving the health of citizens [17].

Past investigations and many other factors related to the professional activities of future physical education teachers and sports coaches have convinced us of the need to create a special course «Formation of a positive attitude towards a healthy lifestyle of citizens». It aims to provide more careful training of students in this context, as well as to create conditions for individual and group work close to real professional activities. Students will have the opportunity to acquire professional competencies and skills to flexibly use them in practice during a special course. Professional training includes mastering a basic knowledge of the healthy lifestyle theory, teaching basic skills and developing programs for implementing a healthy lifestyle, taking into account the specifics of the institutions where the future specialist will work.

The main purpose for achieving the idea of a special course is the need to form citizens' habit to keep the basic principles of healthy lifestyle. First of all, we try to attract as many people as possible to physical education and sport. And also teach to keep the basic principles of a healthy lifestyle: hardening, proper nutrition, maintaining psychological comfort, the regime of work and rest.

The purpose of the special course was to familiarize students with the methodology of forming a positive attitude towards a healthy lifestyle, to create a system of step-by-step actions (algorithm) concerning the dissemination of healthy lifestyle ideas in future professional activities.

Among the conditions that will help the acquisition of professional competencies in this aspect are: awareness of students about the importance of forming a positive attitude towards a healthy lifestyle; systematization and deep knowledge about a healthy lifestyle taking into account the specifics of the work of future physical education teachers and coaches; the development of professionally meaningful competencies

that will facilitate the implementation of the idea of a special course; the formation of a steady interest in self-education and self-improvement and the acquired professional competencies.

Table 1

Topic of the special course «Formation of a positive attitude towards a healthy lifestyle among citizens» (36 h)

Topic 1.Theoretical principles of formation a healthy lifestyle. Regulatory framework for the formation of a healthy lifestyle for young people in Ukraine (2 h).
Topic 2. The role of a healthy lifestyle in the professional activity of a specialist in physical education and sport (2 h).
Topic 3. Domestic and international organizations' experience of activity in the development and implementation of health programs. The role of advertising in the formation of a healthy lifestyle (2 h).
Topic 4. Use of methods and systems of improvement in forming a positive attitude towards a healthy lifestyle of citizens (4 h).
Topic 5. Organizational conditions for implementation of a healthy lifestyle (purpose and tasks, main requirements, content of the subject, methodical recommendations) (8 h).
Topic 6. Fundamentals of program development for forming a positive attitude towards a healthy lifestyle of citizens (12 h).
Topic 7. Psychological and pedagogical prerequisites for the successful using methods of healthy lifestyle in the professional activity of a specialist in physical education and sport (4 h).

In a theoretical perspective, the course is aimed at developing an interest in the formation of a healthy lifestyle. The program of the special course involves mastering professionally meaningful and necessary for the promotion of a healthy lifestyle knowledge, the main content of which is aimed at the development of professional competences, namely: organizational and communicative, personally-professional, creative skills aimed at further self-improvement, as well as to teach health programs and implement them in their professional activities.

As a result of the establishment the special course, students must be able to: use knowledge and skills in forming a positive attitude towards a healthy lifestyle of citizens in professional activities; to carry out the transfer of knowledge from educational situation in practice.

During the study students are introduced to important topics (Table 1.), which will form an idea about the peculiarities of the formation a healthy lifestyle. Each topic has developed methodological recommendations that will facilitate the process of mastering practical skills, and will serve as a benchmark for the implementation of healthy lifestyle ideas in future professional activities. The following methodological recommendations are developed:

1. Conducting conversations among citizens (the purpose and task of the conversation, formulate a conversation plan, preparing for a conversation, holding a conversation, making recommendations on the implementation of healthy lifestyle ideas during the conversation, an diagram of the stages of advancement the ideas of a healthy lifestyle).

2. Methodical recommendations for students contributing to the successful formation of a positive attitude towards a healthy lifestyle of citizens (level of competence, application of the latest technologies and techniques, analysis of their activities).

3. Recommendations on the organization and holding classes (the order of the work process).

4. Organization of mutual learning (exchange of experience).

A didactic game is planned during the establishment of a special course (Project Game «Development of Programs for the Formation of a Positive attitude to a Healthy Lifestyle in School»), which consists of 7 stages (planned project preparation). The work will be held in groups (5-6 people). The final result of the game is the protection of the project. During the defense, all groups will participate in the discussion of each project. The evaluation of the developed program will be provided by experts (lecturers) and colleagues (students from other project groups). In the process of discussion, students from different groups evaluate the work of classmates together with an expert group.

The arrangement and execution of the program is evaluated according to the following criteria:

- relevance of the proposed solutions, reality, practical orientation and significance of work;
- volume of developments, independence, completeness;
- level of creativity, originality of the topic's disclosure, approaches, proposed solutions;

- completeness, reasonableness and persuasiveness, the desire to use answers for the successful disclosure of the topic and the strengths of the work;
- the reasoning of the proposed solutions, approaches, conclusions;
- quality of program design: list and availability of all developments, preparation of reports, visual material;
- volume and depth of knowledge on the topic;
- level of communication opportunities, business and volitional qualities: responsible decision, desire for achievement of high results, readiness for discussion, kindness.

All developed projects will be implemented during the course of pedagogical practice, and after it will be collected for discussion. In our opinion, this approach develops analytical, communicative abilities, the ability to apply the complex acquired competencies in professional activities.

Conclusions. Thus, in our opinion, the establishment of a special course «Formation of a positive attitude towards a healthy lifestyle of citizens» in the process of training specialists in the field of physical education in higher education institutions will increase the acquisition of professional competencies, namely: organizational and communicative, personally-professional, creative skills aimed at further self-improvement, as well as to teach health programs and implement them in their professional activities. The proposed algorithm of actions will help to master the necessary practical skills and transfer knowledge from the educational situation to professional activity. Also, the program will contribute to the formation of special abilities: to organize activities using different types and forms of moving activity for active rest and healthy lifestyle; to general orientation in application of the basic theoretical positions and technologies of recreational moving activity; use basic knowledge of the general theory of health and the ability to integrate knowledge about the principles, ways and conditions for a healthy lifestyle while studying and performing professional tasks.

Prospects for further research. We see in the profound professional competence of specialists in physical education and sport through the implementation of a special course «Formation of a positive attitude towards a healthy lifestyle of citizens».

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THEORETICAL AND METHODOLOGICAL BASICS OF STUDENTS' HEALTH RETAINING COMPETENCE FORMATION OF HIGHER EDUCATIONAL INSTITUTIONS

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Abstracts

Topicality*.** An effective way to improve the youth health is to organize an educational process based on a competent approach that ensures the physical and mental well-being of the individual. However, the scientific literature does not adequately substantiate the information on the components and methods of students` health retaining competence formation of higher educational institutions. ***The purpose of the research is to develop a methodology for the formation of students' health retaining competence of higher educational institutions and to check its effectiveness. ***Methods of the research are*** the analysis of psychological and pedagogical literature, systematization of information, pedagogical testing, questionnaires, pedagogical experiment, pedagogical observation, and mathematical statistics. 480 students were participated at the various stages of the research. ***Results.*** Health retaining competence is a system of values, interconnected and mutual influenced knowledge, skills and abilities, level of physical condition, which provide a high level of healthcare activity. The value, cognitive and activity components lay at the heart of health retaining competence. The valuable component of health retaining competence implies the presence at students of stable interest and motivation to health competence activity, an active attitude to a healthy lifestyle, the ability to reflection and self-regulation of behavior and emotional states. The cognitive component promotes the formation of a system of knowledge, skills that provide a strong state of health. The active component is characterized by systematic physical exercises; the activity in heath retaining activity; using the existing knowledge, skills at students` individual work in the field of physical education. The active component ensures the successful performance of health retaining activity and it is characterized by an adequate level of physical condition and state of health. **Conclusions.** The formation of health retaining competence is a purposeful and structured process that involves the formation of motivation to health retaining activity and systematic motor activity, assimilation of theoretical knowledge and practical skills, increase of physical preparedness and functionality.

Key words: health retaining competence, physical education, health, students, methodology.

Олена Іщук, Анатолій Цьось. Теоретичні та методичні основи формування здоров'язберігальної компетенції студентів закладів вищої освіти. ***Актуальність.*** Ефективним способом зміцнення здоров'я молоді є організація навчально-виховного процесу на основі компетентнісного підходу, який забезпечує фізичне й психічне благополуччя індивіда. Проте в науковій літературі недостатньо аргументовано відомості щодо складників та методики формування здоров'язберігальної компетенції студентів закладів вищої освіти. ***Мета дослідження*** – розробити методику формування здоров'язберігальної компетенції студентів закладів вищої освіти й перевірити її ефективність. ***Методи дослідження*** – аналіз психолого-педагогічної літератури, систематизація інформації, педагогічне тестування, анкетування, педагогічний експеримент, педагогічне спостереження, математична статистика. На різних етапах дослідження взяли участь 480 студентів. ***Результати.*** Здоров'язберігальна компетенція – це система цінностей, взаємозв'язаних і взаємозумовлених знань, умінь і навиків, рівня фізичного стану, які забезпечують високий рівень здоров'язберігальної діяльності. В основу здоров'язберігальної компетенції покладено ціннісний, когнітивний та діяльнісний компоненти. Ціннісний передбачає наявність у студентів стійкого інтересу й мотивації до здоров'язберігальної діяльності, активне ставлення до здорового способу життя, здатність до рефлексії та саморегуляції поведінки й емоційних станів. Когнітивний компонент сприяє сформованості в студентів системи знань, умінь і навичок, що забезпечують міцний стан здоров'я. Діяльнісний компонент характеризується систематичністю занять фізичними вправами; активністю в здоров'язберігальній діяльності; використанням сформованих знань, умінь, навичок у самостійній роботі студентів із фізичного виховання. Діяльнісний компонент забезпечує успішне виконання здоров'язберігальної діяльності й вирізняється належним рівнем фізичного стану та стану здоров'я. ***Висновки.***

Формування здоров'язберігальної компетенції − це цілеспрямований і структурований процес, який охоплює формування мотивації до здоров'язберігальної діяльності й систематичної рухової активності, засвоєння теоретичних знань і практичних умінь, підвищення фізичної підготовленості та функціональних можливостей.

Ключові слова: здоров'язберігальна компетенція, фізичне виховання, здоров'я, студенти, методика.

Елена Ищук, Анатолий Цёсь. Теоретические и методические основы формирования здоровьесберегающей компетенции студентов высших учебных заведений. ***Актуальность.*** Эффективным способом укрепления здоровья молодежи является организация учебно-воспитательного процесса на основе компетентностного подхода, который обеспечивает физическое и психическое благополучие индивида. Однако в научной литературе недостаточно аргументированы сведения о составляющих и методике формирования здоровьесберегающей компетенции студентов высших учебных заведений. ***Цель исследования*** – разработать методику формирования здоровьесберегающей компетенции студентов высших учебных заведений и проверить ее эффективность. ***Методы исследования*** – анализ психолого-педагогической литературы, систематизация информации, педагогическое тестирование, анкетирование, педагогический эксперимент, педагогическое наблюдение, математическая статистика. На разных этапах исследования приняли участие 480 студентов. ***Результаты.*** Здоровьесберегающая компетенция – это система ценностей, взаимосвязанных и взаимообусловленных знаний, умений и навыков, физическое состояние, что обеспечивают высокий уровень здоровьесберегающей деятельности, признание здоровья важнейшей ценностью человеческого бытия. В основе здоровьесберегающей компетенции лежат ценностный, когнитивный и деятельностный компоненты. Ценностный предусматривает наличие у студентов устойчивого интереса и мотивации к здоровьесберегающей деятельности, активное отношение к здоровому образу жизни, способность к рефлексии, саморегуляции поведения и эмоциональных состояний. Когнитивный компонент определяет сформированность у студентов системы знаний, умений и навыков, которые обеспечивают крепкое состояние здоровья. Деятельностный компонент характеризуется систематичностью занятий физическими упражнениями; активностью в здоровьесберегающей деятельности; использованием сформированных знаний, умений и навыков в самостоятельной работе студентов из физического воспитания. Деятельностный компонент обеспечивает успешное выполнение здоровьесберегающей деятельности и отличается должным уровнем физического состояния и здоровья. ***Выводы.*** Формирование здоровьесберегающей компетенции – это целенаправленный и структурированный процесс, который охватывает формирование мотивации к здоровьесберегающей деятельности и систематической двигательной активности, усвоение теоретических знаний и практических умений, повышение физической подготовленности и функциональных возможностей.

Ключевые слова: здоровьесберегающая компетенция, физическое воспитание, здоровье, студенты, методика.

Formulation of a research problem and its significance. The world community consider human health in its broad sense as one of the global issues. Among the reasons of the declining health there are socio-economic and environmental factors, ineffective health care strategies and flaws in the educational system .Also , the fact that the future of each country, its political, economic and cultural levels depends upon how it creates favorable conditions for a healthy development and a happy life of youth is also indisputable.

The analysis of domestic and foreign scientific sources allowed to determine the significant experience gained in the theory and practice of retaining and strengthening of health [6; 10; 17; 20; 22; 23] .In scientific works the methods of forming a health culture have been substantiated, the main conditions for the establishment of the health retaining educational environment have been defined , the requirements for a health retaining activity have been established [1; 12; 15; 21], the programs for health strengthening of youth by means of physical activity have been recommended [4; 8; 11; 14; 16; 18; 19] .As a result of the educational activity the health retaining competence have been formed[2].

In scientific works [2; 7; 9; 13; 17] It is stated that one of the effective ways of health strengthening and health retaining for young students is the organization of the educational process on the basis of a competency-based approach which creates a sustained motivation to health retaining and shaping one's own identity in a healthy way of living, teaching the means and methods that provide the physical and mental well-being of the individual.The implementation of this approach involves the formation of key competencie, in particular a health retaining competence. However, in modern scientific literature, there is not enough information on the components and methods for the formation of the health retaining competence for university students.

The goal and the specific tasks of the article. To develop a methodology for the formation of health retaining competence for university students and to test its efficiency.

Material and methods of research. For the purpose of solving the given tasks,the system of research methods was used. Theoretical methods include the study of psychological and pedagogical as well as medical and biological literary sources on the issue of health and physical education in the higher education system, which made it possible to systematize the basic concepts of the problem under the study and outline the essence of health retaining competence of students. Empirical methods include monitoring the educational activity, analysis of its results, questionnaires, testings, pedagogical experiments. These methods enabled to identify the state and peculiarities of the formation of students health retaining competence and to test the method of formation of health retaining competence of students in the process of physical education.Statistical methods facilitated qualitative and quantitative analysis of experimental data as well as validation of the results.

The research was carried out at the Lesia Ukrainka Eastern European National University and Lutsk National Technical University. 480 students took part in the research at its different stages.To test the effectiveness of the developed method of the health retaining competence formation, a pedagogical experiment with the students of Lesya Ukrainka Eastern European National University was conducted. Altogether 247 students were involved,125 among whom were a part of an experimental group and 122 were a part of a control group.

Research results. Based on the results of the scientific researches[3; 5; 10; 17] and collected data, it was determined that health retaining competence is a system of values, interconnected knowledge, skills, abilities and level of physical state, which provide a high level of health retaining activity and acknowledgment of health as the most important value of human being.

The data obtained enabled to substantiate the main components(human, cognitive, component of activity) of the health retaining competence of students (Fig.1).

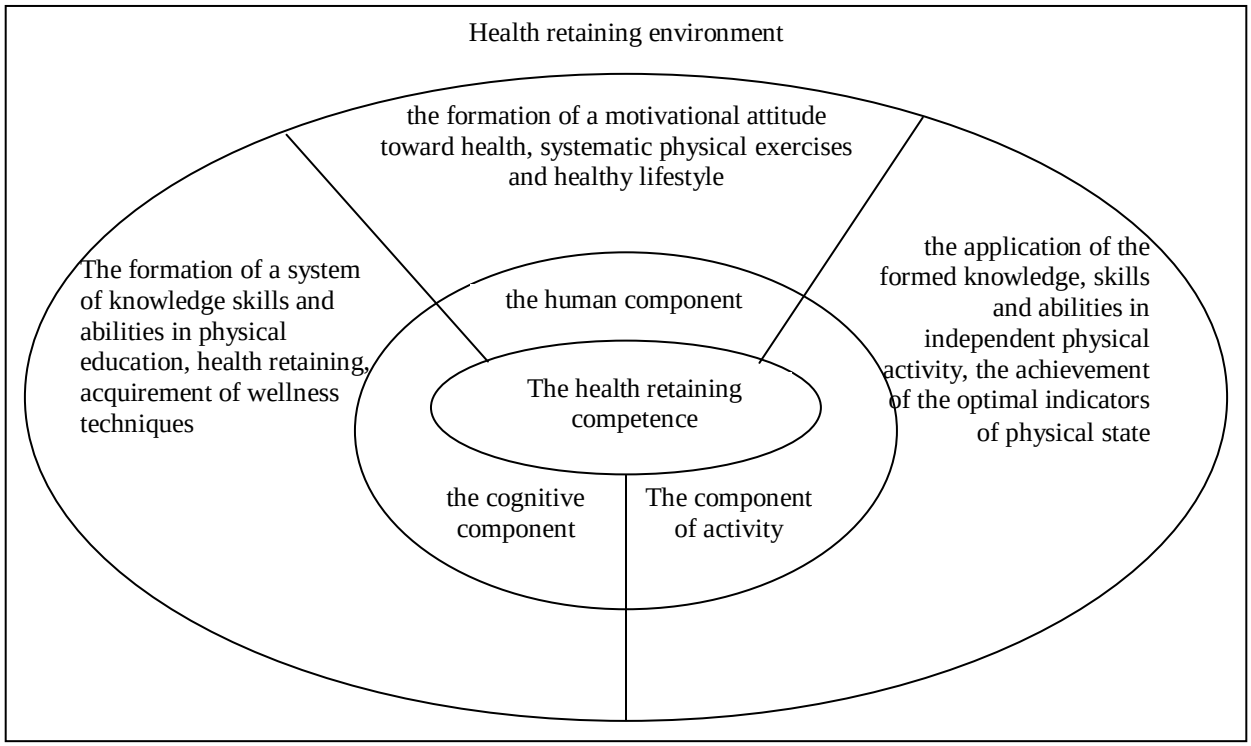

Fig. 1. *The main components of the health retaining competence*

A human component of health retaining competence implies a stable interest and motivation for health retaining activity, an active attitude regarding healthy lifestyle, the ability to reflect and self-regulate behavior and emotional states.

The research demonstrates that the students' level of interest in physical education at universityis similar to the average.The study has shown a downward trend in interest of youth in physical education and the emergence of those who don't have the interest at all. Getting good grades is one of the main motives for students to attend classes of physical education at the university.Most girls limit their physical activity to only compulsory physical education classes.

According to selected psychological figures, there is a negative trend among students in the development of conditions, which can lead to a deterioration of health or pose a direct threat to it. In particular, on a frustration discomfort scale of people who do not have a high self-esteem, who are resistant to failure and are not afraid of difficulties, there has been identified 50 % of the first-year university students, 66.6 % of the second-year students, 42.6 % of the third-year students and 59.6 % of the fourth-year students. The highest average level of frustration has the students of the first year of study – 47.9 %, the second-year students – 27.7 %, the third-year students – 53.7 % and the fourth-year students – 40.4 %.On the basis of the results of the WAM inquirer (well being-activity-mood), it was found that on the 'Well-being" scale a favorable state is observed in 30.3 % of the polled students, 29.4 % of students have normal state of well-being and 62.3 % are unfavorable.On the "Activity" scale , the distribution of students by their state is as follows: 29.4 % - favorable, 24 % - average and 34.6 % - unfavorable.On the "Mood" scale , 35 % of students belong to those who are usually in a good mood, 29.4 % of students are in a normal mood and 35.6 % are in a bad mood.

The cognitive component involves the formation of a system of knowledge and skills that provide a good state of health among students. The results of the study demonstrates the low level of theoretical knowledge of university students on the main sections of knowledge necessary for the formation of a sufficient level of health retaining competence.

The component of activity is characterized by systematic physical activity; health retaining activity; using the established knowledge and skills in independent work of students of physical education.The component of activity provides a successful performance of a health retaining activity and is characterized by an adequate level of physical health and well-being. Physical health is an integrated sign of the vital functions of a body that is determined by physical development, physical strength , functional capabilities of a body and a state of health.

The results of the study of the students physical development show that the average body length of the students is 162.4–165.6 cm, body weight – 52.2–56.4 kg, chest at rest – 81.5–87.3 cm, at inhalation – 84,8–91,0 cm, at exhalation – 79,3–85,7 cm. In general anthropometric measurements are within the age limits. The indicators of physical development of the students remain pretty much unchangeable, which is due to the physiological mechanisms of the age.

The data obtained enables to state that the average indicators of the students' physical fitness are low. It should be noted that from the first to the second year of study there is a tendency among the students to increase physical fitness by 3.8-18.5 % (depending on the year of study).Then there is a certain stabilization of the results with their subsequent decrease (up to 28.4 %) in the fourth year of study.

The average indicators of diastolic and systolic blood pressure of university students are within the age limits. At the same time, 19 % of the first-year students, 12.82 % of the second-year students, 5.7 % of the third-year students and 24.5 % of the fourth-year students have high systolic blood pressure. The heart rate of the students is within the range of 77.4-87 beats per minute. However, a significant number of the students have tachycardia (more than 50 % during the third and fourth years of study).

Therefore, the human component, the cognitive component and the component of activity of the health retaining competence of students do not fully meet the requirements for the high-quality health retaining activity, which requires additional scientific research.

Statement regarding the basic material of the research and the justification of the results obtained. On the basis of analysis of literary sources, practices of higher education institutions, as well as a systematic approach as a methodological basis for the study, a method for the formation of a health retaining competence of university students was developed. The method covers the compliance with a certain goal, objectives, principles, pedagogical conditions, methods, means, forms and stages of study (Fig.2).

The goal of formation of the healthcare retaining competence involves the development of personal qualities, special knowledge, skills and abilities, physical activity, providing a high quality of life.Effective formation of the health retaining competence can occur only in the conditions of health retaining activity,

which is considered as a specific form of human activity, that is carried out in conditions of a healthy lifestyle. The developed methodology is based on the formation of the human component, the cognitive component and the component of activity of the health retaining competence of university students.

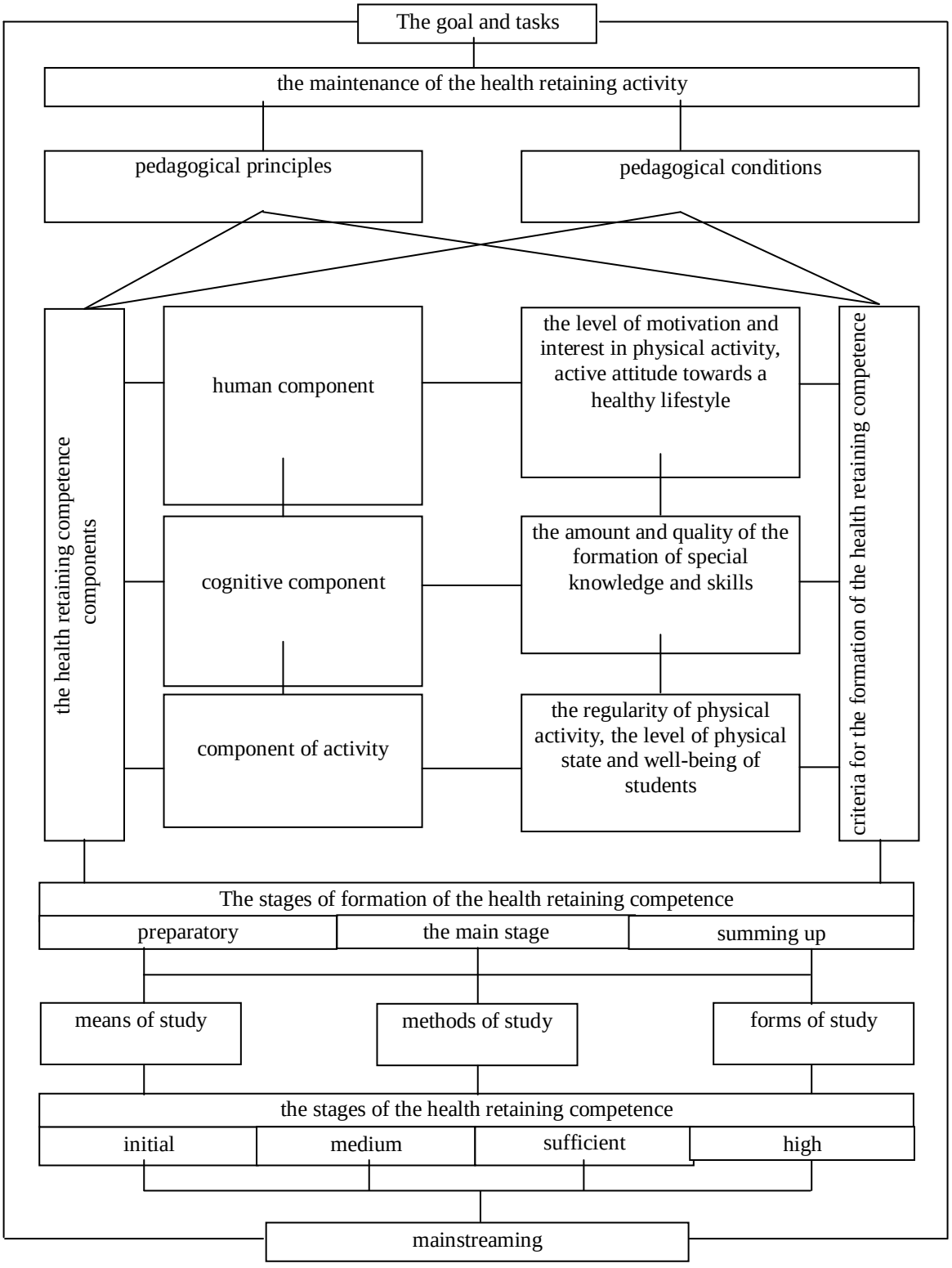

Fig. 2 *Structure of the method of a health retaining competence formation*

The main pedagogical conditions for the formation of students' health retaining competence include the personality and activity approach, the continuity of the training process, focus on self-education and self-development, interdisciplinary integration and the creation of an atmosphere of cooperation and mutual learning.

Formation of a health retaining competence of students is carried out during the three stages: the preparatory stage, the main stage and summing up. At the first stage, which is the formation of a motivational attitude towards physical activity, students develop an understanding of the importance of independent exercises, persistent interest and motivation to physical exercise and a healthy lifestyle.At the second stage, a system of knowledge, skills and abilities in physical education is created, an ability to independently perform physical exercises is formed and health-improvement training programs are built. The third stage involves an application of the formed knowledge, skills and abilities in independent physical activity, involvement and assimilation of the rules and technologies of health training, accumulation of practical experience in the performance of physical exercises.

The effectiveness of the realization of the health retaining competence tasks depended directly on the effective cooperation between the teacher and the students, which created a condition of mutual trust and high emotional activity of the physical classes.

The approbation of the developed method showed its high efficiency, which is confirmed by the growth of the indicators of health retaining competence, an increase in the number of people who independently performed physical exercises to 78 % and an increase of the level of physical fitness in accordance with all the motor tests.

Conclusions and prospects for further research. Health retaining competence is a system of values, interconnected and interdependent knowledge, level of physical state, skills and abilities that provide a high level of healthcare and recognition of health as the most important value of human existence.

The health retaining competence is based on the human component, the cognitive component and the component of activity.A human component of health retaining competence implies a stable interest and motivation for health retaining activity among students. The cognitive component involves the formation of a system of knowledge and skills that provide a good state of health among students. The component of activity is characterized by systematic physical activity; health retaining activity; using the established knowledge and skills in independent work of students of physical education. The human component, the cognitive component and the component of activity of health retaining competence of students do not fully meet the requirements of high-quality healthcare .

The formation of the health retaining competence is a purposeful and structured process that involves the formation of motivation to health retaining activity and systematic physical activity, assimilation of theoretical knowledge and practical skills, increase of physical fitness and functional capabilities.The method of formation of the health retaining competence is developed on the basis of the analysis of literary sources, the practices of higher educational institutions, as well as the systematic approach as a methodological basis of the study, covering the interconnection of all the components of the educational process with respect to the stated goal, tasks, principles, pedagogical conditions, methods , means, forms and stages of training.The developed method is based on the formation of the motivational component,the cognitive and the component of activity of the health retaining competence.

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PROBLEMS OF THE CONTENT OF THE TECHNICAL AND TACTICAL PREPARATION OF THE VARIATIONAL MODULE «HANDBALL» OF THE CURRICULUM ON PHYSICAL EDUCATION FOR GENERAL EDUCATION INSTITUTIONS (GRADES 5–9)

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Abstracts

Relevance. The reform of education in Ukraine is carried out, among other things, through the modernization of curricula. The basis of the current curriculum in physical education for general educational institutions (grades 5–9) is the content of the program 2009 which about the needs to be improved according to professionals. The considerable activity of the public commentators precededing the introduction of changes to this curriculum in 2017, confirmed the presence of deficiencies and the need for its updating. However, as evidenced by the «Report on the work done by the working group on updating the program «Physical Education. Grades 5–9» only 10 proposals were taken into consideration account and the authors of the updated document themselves did not make significant changes to the content of the modules except for some terminological corrections. ***The purpose of the research*** is to identify the content of the technical and tactical training of the optional «Handball» module of the physical education curriculum for grades 5–9 (2017) and to find ways to eliminate them. ***Research methods*** – theoretical analysis of the regulatory framework of education, theoretical analysis and synthesis of scientific and methodological literature data. ***Results.*** The article examines the content of the technical-tactical training of the optional Handball module of the physical education curriculum for grades 5–9. The volume of the material proposed for the study, the methodical sequence of studying the technical and tactical elements, the structure frame of the educational material and its scientific nature were determined. The ways of eliminating terminological and methodical deficiencies are proposed. ***Conclusions.*** The study of the content of the optional «Handball» module of the physical culture curriculum for general education schools (grades 5–9) showed deficiencies related to an incomplete amount of material offered for study, discrepancy between the methodical sequence of mastering the elements of technology and tactics and recommendations of special literature and the terminology used.

Key words: updated curriculum, handball, technique, tactic, methods, terminology.

Михайло Оліяр. Проблеми змісту техніко-тактичної підготовки варіативного модуля»гандбол» навчальної програми з фізичної культури для загальноосвітніх навчальних закладів (5–9 класи). ***Актуальність.*** Реформування освіти в Україні відбувається з-поміж іншого за допомогою модернізації навчальних програм. В основу чинної навчальної програми з фізичної культури для загальноосвітніх навчальних закладів (5–9 класи) покладено зміст програми від 2009 р., про необхідність удосконалення якої висловлювалися думки у фаховій літературі. Значна активність учасників громадського обговорення, що передувало внесенню змін до цієї навчальної програми у 2017 р., підтвердила наявність недоліків та необхідність її корегування. Проте, як свідчить «Звіт про роботу, виконану робочою групою з оновлення програми «Фізична культура. 5–9 кл.»«, ураховано лише 10 пропозицій та й самі укладачі оновленого документа суттєвих змін, окрім деяких термінологічних корекцій, до змісту модулів не внесли. ***Мета дослідження*** – визначення проблем змісту техніко- тактичної підготовки варіативного модуля «Гандбол» навчальної програми з фізичної культури для 5–9-х класів (2017 р.) та пошуку способів їх усунення. ***Методи дослідження*** – теоретичний аналіз нормативно-правової бази сфери освіти, теоретичний аналіз й узагальнення даних наукової та методичної літератури. ***Результати.*** У статті досліджено зміст техніко-тактичної підготовки варіативного модуля «Гандбол» навчальної програми з фізичної культури для 5–9-х класів. Визначено обсяг запропонованого для вивчення матеріалу, методичну послідовність опанування технічних і тактичних елементів, структурованість навчального матеріалу та його науковість. Запропоновано способи усунення термінологічних та методичних недоліків. ***Висновки.*** Дослідження змісту варіативного модуля «Гандбол» навчальної програми з фізичної культури для загальноосвітніх навчальних закладів (5–9 класи) виявило недоліки, пов'язані з неповним обсягом запропонованого до вивчення матеріалу, невідповідність методичної послідовності засвоєння елементів техніки й тактики рекомендаціям спеціальної літератури, хиби використаної термінології.

Ключові слова: оновлення навчальної програми, гандбол, техніка, тактика, методика, термінологія.

Михаил Олияр. Проблемы содержания технико-тактической подготовки вариативного модуля «Гандбол» учебной программы по физической культуре для общеобразовательных учебных заведений (5–9 классы). ***Актуальность.*** Реформирование образования в Украине происходит, среди прочего, через модернизацию учебных программ. В основе действующей учебной программы по физической культуре для общеобразовательных учебных заведений (5–9 классы) лежит содержание программы от 2009 г., о необходимости совершенствования которой высказывались мнения в профессиональной литературе. Значительная активность участников общественного обсуждения, которое предшествовало внесению изменений данной учебной программы в 2017 г., подтвердила наличие недостатков и необходимость ее корректировки. Однако, как свидетельствует «Отчет о работе, проделанной рабочей группой по обновлению программы «Физическая культура. 5–9 кл.»«, учтено только 10 предложений и сами составители обновленного документа существенных изменений, кроме некоторых терминологических коррекций, к содержанию модулей не внесли. ***Цель исследования*** – определение проблем содержания технико-тактической подготовки вариативного модуля «Гандбол» учебной программы по физической культуре для 5–9-х классов (2017 г.) и поиска путей к их устранению. ***Методы исследования*** – теоретический анализ нормативно-правовой базы сферы образования, теоретический анализ и обобщение данных научной и методической литературы. ***Результаты.*** В статье исследовалось содержание технико-тактической подготовки вариативного модуля «Гандбол» учебной программы по физической культуре для 5–9-х классов. Определяется объем предложенного для изучения материала, методическая последовательность изучения технических и тактических элементов, структурированность учебного материала и его научность. Предлагаются пути устранения терминологических и методических недостатков. ***Выводы.*** Исследование содержания вариативного модуля «Гандбол» учебной программы по физической культуре для общеобразовательных учебных заведений (5–9 классы) показало недостатки, связанные с неполным объемом предлагаемого к изучению материала, несоответствие методической последовательности усвоения элементов техники и тактики рекомендациям специальной литературы, недостатки используемой терминологии.

Ключевые слова*:* обновление учебной программы, гандбол, техника, тактика, методика, терминология.

Formulation of a research problem and its significance. Education in Ukraine has entered the path of reforms. It is a must in our time. Without deep modernizing changes, national educational system would hardly be competitive in the European economic and cultural space, as well as function effectively. The «Concept of a New Ukrainian School», which involves human values reinforcement, as well as, structural and systemic changes, should constitute the basis of reforms in the educational field [1]. The National Council of Reforms, which is a platform for generating the reforms and top-priority vectors of change, calls for a comprehensive update of curriculums, one of the prerequisites of which is a thorough analysis of the relevant documents in force and looking for the ways of their refinement [2]. Active efforts of the Ministry of Education and Science, with regard to the reforming of education as the whole, and physical education in particular, are expressed through regulatory and legal changes. Consequently, the Law of Ukraine «On Education» came into force in September 2017 [3]. Thereafter, as the result of a large-scale public, scientific and expert discussion, the program of physical education for the elementary school, «The Syllabus of Physical Education for general educational institutions (V-IX classes)», was approved with the Order of the Ministry of Education and Science of Ukraine (from 07.06.2017) [4]. Regarding the aforementioned document, the activity of the participants in the public discussion of changes to this syllabus (465 comments) [5] has constituted the existence of deficiencies and the need for their elimination .However, as evidenced by «The Report on the work done by the working party updating the program «Physical Education (V–IX cl.)», only 10 proposals, constituting some minor terminological amendments to the contents of the modules, were approved.Hence, the modules of the physical education syllabus for V-IX classes, issued in 2009 and reissued in 2012, still form the basis of the aforementioned syllabus.

Analysis of the research into this problem. Physical education syllabi for general educational institutions for 5–9th classes, issued in 2009 and 2012, were the subjects of V. M.Shyian, I. O. Omelyanenko, N. S. Sorocalit investigations.

This way, the results of the dissertation of N.S. Sorokolit [6] prove the effectiveness of a modular program for raising the level of physical preparedness of students, as well as reveal positive attitude towards it by students and teachers. The author, for the most part, focused on variations of the optimal combination of modules during the school year and on the terms of their practical application. At the same time, the content of the varied components of the syllabus was not evaluated.

The educational content of the program is researched in the work of B. M. Shyian and I. O. Omelyanenko in more detail.[7] .The authors point out the positive aspects of the document that promote the

democratization and humanization of the process of physical education in schools as well as highlight the drawbacks related to the methodological and contensive complectation of modules and professional terminology. Scholars recommend to publicly discuss new planning documents on physical education or the ammandments to be applied to already existing ones in order to avoid deficiencies in their content.

The goal and the specific tasks of the article. The aim of the research was determined taking into account the state's efforts concerning improving the educational process in the school and the views of the specialists in the field of physical education regarding the contents of the syllabus of physical education for V-IX classes issued in 2009 and 2012, the content of which forms a base of the currently used syllabi.

The aim of the research: to determine the problems of the contents of the technical and tactical training of the variational module «Handball» taken from physical education syllabus for V-IX classes (2017) and ways of eliminating them.

Objectives of the research:

1. Enlist and sequence technical and tactical elements proposed in the module «Handball» of the physical education syllabus for V-IX classes.

2. Conformity evaluation of technical and tactical training of the variant module «Handball» to methodical requirements to handball teaching.

Material and methods of research: theoretical analysis of the regulatory and legal framework of the sphere of education, theoretical analysis and generalization of the data of scientific and methodical literature.

Statement regarding the basic material of the research and the justification of the results obtained. Content analysis of the technical and tactical training material of the variant module «Handball» of the syllabus of physical education for V-IX classes has showed that , besides the list of technical and tactical elements, there is also additional information provided.Thus, «a pair handoff», «passing and catching the ball in triplets», « shots with right and left hand», «a pair handoff in movement with the exchange of places», «goal shots», «an educational game with simplified rules «,» 2 × 1 and 2 × 2 gaming exercises «,» mini-handball» and other exercises are not technical skills but means of training and technical and tactical improvement.Such exercises as «passing and catching the ball in triplets with parallel movement», «movement with crossing» substitute the elements of group tactical activity in the attack - interaction by parallel movement and interaction by movement with crossing [Tsyhanok].Certain terms, that are present in the content, relate not to technical and tactical training, but to the rules of the handball: a seven-meter throw, a free throw.In addition, the notion «penalty throw» is not used at all in handball.

We have created tables, where technical skills and elements of tactics are singled out from the information provided in the educational material concerning technical and tactical training, and presented them according to the year of study, in order to investigate the list and sequence of technical and tactical elements of the variant module «Handball», proposed for the acquisition (Table 1, 2).

Compliance of the content of technical and tactical training with methodological requirements for handball training, given in the professional literature [8; 9; 10], was determined by the following criteria:

- the volume of material proposed for acquisition;
- methodical sequence of technical and tactical elements studying;
- structure of educational material;
- scientificity.

Analysis of the content of the technical and tactical preparation of the variable handball module of the training program (Table 1, 2) has showed that the list of technical elements and elements of the tactics given in the syllabus is incomplete.Tellingly, a number of the basic elements of the offensive technics are absent: holding the ball, catching the ball with one hand (with or without capturing), chest pass with a push, the most common passing type - whipping passes, ways to run up for running throws from the standing position, the most effective type of throws in the handball - a jump shot, one-touch putting the ball into play.Speaking of a field player's techniques for defense, hitting the ball out during the throw-in is not proposed for acquisition, and the ball retention is not included in the list of goalkeeper's skills.. However, there are such sophisticated technical elements as spin throws, throws with a deflection and hazardous diving throws. The list of basic tactical actions is also incomplete .In particular, there are no such simple skills as slipping through, switching, group actions with parallel displacement, but there are related to them and more complicated ones - inside screen and outside screen and scissors movement respectively.Only one of four field player's employments, the «linear» one, is proposed for consideration.

Table 1

Technical preparation content of the variant module «Handball» over the years of study (players' stances and movements, catching, passing, throwing, dribbling).

Educational material contents					
Year of studying	**Handball skill**				
	Stances and movements / **In offence and defense**	**Catching**	**Passing**	**Throws**	**Dribbling**
1	Handballer's stance. Movements, two steps stop.	Ball catching with both hands.	Passing the ball with one or two hands from one's place.	Downward throw with a bent hand. Shots with left and right hands.	Stepped driving the ball with right and left hands, swerving the ball around the bars.
2	Movement modes along the pitch in offence and defense. Movement without the ball.	Ball catching underarm, on the chest level and overarm with both hands.	Overhead and arm pass from the standing position and in the motion. Passing in pairs in the motion with the exchange of places. Passes with with various flight pathes.	Right hand and left hand overarm throws with a swing-up from the standing position and in the motion. Throws at the goal. 7m-shot and free throw from the standing position.	—
3	Player's movement. The types of movement in offence and defense.	Catching the rolling ball.	Passing and catching the ball at oncoming movement.	Slap shot from the standing position. 7-m shot.	Dribbling with varying bouncing amplitude.
4	—	—	Hidden wrist pass.	Throw from the standing position with the swerving of the corpus, with 1-2-3 steps, dive shot. Bouncing shot. Free throw.	—
5	—	—	—	Throws from the standing position and in the motion under active defensive pressing. Throws with putting the spin on the ball.	—

Table 2

Components of technical and tactical training of the variable module "Handball" accordind to the year of the years of study (feigned moves, tackling the ball, pressing, goalkeeper's technics, offensive and defensive tactics)

Educational material contents					
Year of studying	Handball technics			Handball tactics	
	Feigned moves	Tackling the ball and pressing	Goalkeeper technics	Offensive tactics	Defensive tactics
				For a field player, goalkeeper.	For a field player, goalkeeper.
1	—	—	—	Positioning of players on the court.	
2	—	—	Goalkeeping. Stance and movements in the goal. Turning the ball away with one or two hands.	—	—
3	Give-and-go feint, fake run movement (with the offence and throw from the other direction). Feigned moves with right and left swerving.	—	Turning away the ball technics. Goalkeeper's lunges for the shots at the bottom corners.	Fake movements. Inside and outside screen.	Position of a goalkeeper while turning away the 7-9m. shots. Crashing through the screens.
4	—	Charging the opponent. Interception, shots blocking.	—	Scissors movement	Mixed defense system (5+1), (4+2). Goalkeeper-defender teamwork.
5	Moving to the ball with fake movements.	—	—	The movement of eight. Defensive and offensive tactics. Counterattacking , positional offence. Throwing from the closed position. Teamwork in offense. Open area penetrating. Fast break 2x4; 3x3.	Individual and positional defense. Defensive covering and support. Goalkeeper's tactics. Choosing direction of the offence. Interaction with defenders. Defensive game adjustment. Defensive teamwork 6x0; 5x1.

The methodological sequence of the studying of technical and tactical elements, that is presented in the syllabus both within the year and throughout the the module period, should also be amended. In particular, some groups of techniques in the content of the syllabus module are presented in the sequence, recommended in the professional literature [8; 9; 10], (for example, during the second year of study it is recommended to acquire the moving techniques, catching, passing with one and two hands and shots), however, the sequence proposed for the studying of some other elements, is methodically unsubstainable.

Hence, in the first year of study it is suggested to acquire: «stepped driving the ball with right and left hands, swerving the ball around the bars, catching the ball with both hands.» It is controversial that «catching» is given at the end and, hence, can be interpreted by the teacher as a recommendation to teach this technique after the ball driving, and begin teaching the technique of ball handling with the dribbling that does not correspond to the logic of handball techniques acquisition. What is more, in the first year of study, it is proposed to teach passing with one and two hands.With the lack of clarifications, we can conclude that these passes are carried out with the help of a push (it comes from the logic of the process of passing acquisition and from the fact that in the second year it is proposed to study only pushing passes).However, we can already see a slap shot in the contents of the educational material, which is methodically unjustified, since students should deal with passes of the same type in order to carry out slap shots.The technique of whip-like passes is not not prosed for acquisition at all. Violation of the methodological sequence was also revealed in the planning of tactical actions training. Thus, it is proposed to teach mixed defense at the 4th year of studying the module «Handball», but individual and zone defense - on the 5th. In this case, the fact that mixed defense is a combination of individual and zone defense and is studied after their acquisition is not taken into account.

Some techniques of handball are duplicated over several years of study. Through the analysis of educational material we can observe denoting the same technique with different names. Hence, such notions as «movement», «movement modes along the court in offence and defense», «ways of moving in attack and defense», in the aforementioned order, are in the content of technical and tactical training during three years of studying the module. In addition, «catching the ball with both hands underarm, at the level of the chest, overarm», proposed for studying in the second year, duplicates the material of the first year - «catching the ball with both hands». Material duplication also occurs concerning throws acquisition. Thus, during the first three years of module acquisition, it is proposed to carry out a downward throw with a bent hand from the standing position, but its name is given in different ways: «downward throw with a bent hand», «right hand and left hand overarm throws with a swing-up from the standing position and in the motion», «slap shot from the standing position». At the same time, no variations or pecularities of the throw of this type are specified. If , according to the authors of the Handball module of the syllabus, such duplication is a condition for improving these techniques during a long period of handball acquisition, then, it would be worthwhile, in each of the annual parts of the module, use the identical terminology for their definition, as well as duplicate not only aforementioned elements, but also other technical and tactical ones.

The fact, that the names of technical elements, contained in the content of technical and tactical training, are not always specific and complete, may lead to disorganization of the process of handball acquisition. It is suggested to study «passing the ball with one or two hands from one's place» in the first year, however, the way of its implementation is not indicated (push, slap, wrist pass, overarm and underarm, etc.).In addition, it is not indicated with regard to «catching the ball with both hands», whether the ball is rolling, flying at medium altitude, flying high or after a bounce .It follows from the names given in the training program, that it is required to teach passing or catching the ball in all ways in the first year of handball acquisition .However, the methods and pecularities of carrying out these elements are specified and sequnced in the contents of the module for the following years. We can observe the similar situation concerning a downward throw with a bent hand.This way, during the first year of study module, students are prerequised to acquire «downward throw with a bent hand», but this throw can be carried out from one's place, from the standing position, from the position without support and in the motion.The same technique is submitted somewhat more precise, although not quite correct for the following year, «right hand and left hand overarm throws with a swing-up from the standing position and in the motion» (a throw from the top already involves a preliminary swing-up and is not performed in motion, but from the run-up).

Imperfect, and in some cases, erroneous terminology used in the formation of the content of the module «Handball» hinders its mastering. Namely, there are extra clarifications that contradict the sports terminology: a throw with a bounce from the floor, overarm throws with right and left hand with swing-up, shooting on goal, free throw and penalty shot from the standing position. In addition, different names are used for the same notion: catching and seizing, movement and dislocation. Technical elements that are not included in the classification of handball techniques have been sometimes indicated: stop by two steps, overhead pass.There are also Russianisms («perehvat» - perekhoplenia (interception); skryta-prykhovana (hidden)) and concepts that do not match the handball terminology («resistance of the rival» - counteraction; «bounce amplitude» - bounce height).

Conclusions and prospects for further research. In the basis of the training material of the variational module «Handball» of the physical education syllabus of 2017 for secondary schools (V-IX classes), is the content of the syllabus of 2009, which, according to experts, requires a thorough analysis, amendment and modernization. Content analysis of technical and tactical training offered in this module has revealed the lack of some basic elements of technics and tactics of the game.The discrepancy between the proposed sequence of the studying of handball elements, both within a particular year and throughout the period of mastering the module, and the methodological requirements for the training of technology and tactics of this game was revealed .The list of elements of technical and tactical training, in the content of the syllabus, is chaotic, with the inclusion of training tools and game rules.Terminological deficiencies, that are present in the document, undermine its status and disrupt the learning process.

Analysis of other variative modules of the physical education syllabus for general educational institutions (V-IX classes) of 2017 and finding the ways to improve them are the among the prospects for further research.

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THE INFLUENCE OF PARTICIPATING IN SPORTS ON SHAPING MASCULINE CHARACTER TRAITS AND INDIVIDUAL QUALITIES OF PUPILS FROM DIFFERENT AGE GROUPS

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Abstracts

Actuality. The different aspects of gender problem and gender approach in pupils' physical education are considered in the article. Tasks of the article.The identifying an influence of participation in sports on shaping a gender personality type for young men and young women from different age groups. ***Methods.*** Pupils of 3–11 grades took part in the researching. The total number of respondents is 692 (young men – 332, young women – 360), among which 126 pupils participate in sports (97 young men, 29 young women). The questioner worked out by Sundry Bam «Masculinity-femininity» and methods of mathematical statistics were used. The results of pupils who were taking part in the researching were stratified according to information about pupils' sex and age. ***Results of the Work and Conclusions.*** The knowledges of the influence of participation in sports on formation masculinity traits of teenagers' characters were taken. It was founded that for young men who participates in sports, on the group level, the occurrence of masculinity becomes bigger. It is 50 % more than for men who do not participate in sports. The occurrence of masculinity, on the young women' group level, who participate in sport more than 30 % in comparison with young women who do not participate in sports.Due to effective approaches and methods of physical activity, orientation on motor activity, pupils are consolidated with patterns of behavior and personality qualities which shape the gender. Received data are the ground of the further and depth studying in the sphere of physical culture and sport, the results of which will become a theoretical ground of the conception of the gender approach in pupils' physical education.

Key words: pupils, gender differences, physical culture, sport, young men, young women, masculinity, femininity, androgenity.

Оксана Марченко. Вплив занять спортом на формування маскулінних рис характеру та якостей особистості в школярів різних вікових груп. ***Актуальність теми дослідження.*** У статті розглянуто різноманітні аспекти гендерної проблематики та гендерного підходу до фізичного виховання школярів із метою вивчення взаємозумовленості формування мотивації до рухової активності та гендерних особливостей юнаків і дівчат. ***Методологія дослідження.*** У науковому експерименті взяли участь школярі 3–11 класів закладів загальної середньої освіти. Загальна кількість респондентів становила 692 особи (юнаків – 332; дівчат – 360), із яких 126 школярів (97 юнаків і 29 дівчат) займаються певним видом спорту. Використано стандартизоване тестування Сандри Бем «Маскулінність – фемінність» та методи математичної статистики. Результати досліджуваних стратифікувалися відповідно до вікових періодів фізіологічного розвитку дітей і їх біологічної статі. ***Результати роботи та ключові висновки.*** Одержано нові знання щодо впливу занять спортом на формування маскулінних якостей характеру підлітків. Виявлено, що в юнаків-спортсменів із віком посилюється прояв маскулінних рис характеру майже на 100 %, що на 50 % більше, ніж в інших юнаків. Дівчата, які займаються спортивною діяльністю, є більш маскулінними в психологічному відношенні, ніж ті, які спортом не займаються. Ознаки маскулінності на груповому рівні в них проявлені більше ніж в інших школярок на 30 %. За допомогою добору ефективних засобів і методів фізкультурно-спортивної діяльності, орієнтації на вподобані види рухової активності, у школярів закріплюються моделі поведінки та особистісні якості, що формують гендер. Отримані дані є підставою для подальших поглиблених гендерних досліджень у сфері фізичної культури й спорту, результати яких стануть теоретичною основою концепції гендерного підходу у фізичному вихованні школярів.

Ключові слова: школярі, гендерні відмінності, фізична культура, спорт, юнаки, дівчата, маскулінність, андрогінність, фемінінність.

Оксана Марченко. Влияние занятий спортом на формирование маскулинных черт характера и качеств личности у школьников разных возрастных групп. ***Актуальность темы исследований.*** В статье рассмотрены различные аспекты гендерной проблематики и гендерного подхода к физическому воспитанию школьников с целью изучения взаимообумовленности формирования мотивации к двигательной активности и гендерных особенностей юношей и девушек. ***Методология исследования.*** В научном эксперименте приняли участие школьники 3–11 классов общеобразовательных учебных заведений. Количество респондентов составило 692 человека (юношей – 332; девушек – 360), из которых 126 школьников (97 юношей и 29 девушки) занимаются определенным видом спорта. Использовалось стандартизированное тестирование Сандры Бем «Маскулинность – фемининность» и методы математической статистики. Результаты исследуемых стратифицировались соответственно возрастным периодам физиологического развития детей и их биологического пола. ***Результаты работы и ключевые выводы.*** Получены новые знания о влиянии занятий спортом на формирование маскулинных черт характера подростков. Выявлено, что у юношей, занимающихся спортом, проявление маскулинности на групповом уровне с возрастом усиливается. Девушки, которые занимаются спортивной деятельностью, более маскулинные в психологическом отношении. Проявление у них признаков маскулинности на групповом уровне на 30 % больше, по сравнению с общин количеством девушек, которые приняли участие в исследовании. С помощью подбора эффективных средств и методов физкультурно-спортивной деятельности, ориентации на виды двигательной активности, которые выбирают школьники, закрепляются модели поведения и личностные качества, формирующие гендер. Полученные данные являються основанием для дальнейших углубленных гендерних исследований в сфере физической культуры и спорта, результаты которых станут теоретической основой концепции гендерного подхода в физическом воспитании школьников.

Ключевые слова: школьники, различия, физическая культура, спорт, юноши, девушки, маскулинность, андрогинность, фемининность.

Formulation of a research problem and its significance. he research of issues, connected with gender phenomenon, is difficult not only because of complexity and multidimensionality of this point, but also because of poor precision and uniqueness of terms that are used. Gender means social sex of a person. It is defined as a complex of social and cultural norms, which, under the influence of authority and domination, must be followed by people of different sex. [3] Unlike the term «sex», “gender” is used in modern humanitarian research to determine sex as a social term and phenomenon. Sex is a biological characteristic, and gender is a cultural and symbolic definition of sex. Researchers believe that application of the term “gender” involve defining sex as an output of human culture. Proponents of the gender approach consider that a child is born male or female, become masculine or feminine under the influence of upbringing and identification of gender role. [1] Masculinity and femininity (lat. masculinus – male, femininus – female) are prescriptive conceptions of somatic, psychic and behavioral properties, which are distinctive of men and women. The issue of the existence of two sexes is fundamental. The first category, in which children comprehend themselves, is a sexual differentiation. Feuerbach pointed out that an indispensable condition for the successful development of the personality is an individual awareness of himself as a boy or girl. He wrote that the personality is nothing without sexual development. [6] In our research, we adhere to the most general modern theory of sexual dimorphism, which is presented in the concept of Vihen Heodakian. According to it male and female play unique roles in the process of self-reproduction of any biological system. The dichotomy of male and female is primarily a dichotomy of variability and heredity. [2]

Despite the fact that gender subject matter is related to a new field of scientific knowledge and very slowly encompasses the academic environment, there is a sufficient amount of scientific and pedagogical literature, which can be used as the scientific foundation of modern research in the field of an issue that is being studied. The fact that men differ from women not only in physiological characteristics, but also in a range of psychological traits, is known for quite a long time. Nowadays there are more than 50,000 research papers in the world practice, where the authors state the presence of sexual differences in various areas of human ontogeny [4].

Scientists believe that the behavioral patterns and personal qualities that form gender are established with the help of the selection of means and methods of sports activities, commitment to physical activity that pupils like. First of all, during movement education, we should take into account sexual dimorphism, which specifies the application of appropriate physical activities for girls and boys [5; 7]. For this reason, we take heed of the authors who believe that a sex is a biological characteristic, and gender is a cultural construct that

allows marking and regulating the manifestation of certain biological data of a person in the system of social relations. According to these references, we consider that the formation of motivation for physical activity and values of physical education can also depend on the gender differences of boys and girls. There is no doubt that physical education can be one of the means of pupils' gender socialization. Researchers L. Slepova and T. Khairov express the just opinion that a person not just attends physical education, but becoming self-aware with the help of physical education. The timeliness and completeness of the formation of psychological traits of masculinity and femininity largely influence over self-confidence, the integrality of experiences, the precision of attitudes that will affect the future effectiveness of communication with people, relationships in the family and the team [13].

Therefore, carrying out an analysis of scientific and pedagogical literature in our research, we rely on the achievements in the field of physical education and sports, pedagogy and psychology in the context of the organization of education and upbringing of children, adolescents and youth in the process of their gender socialization; as well as on modern gender theories that reveal a range of problems related to gender approach. Currently, numerous studies in the field of sport relate mainly to sexual dimorphism, investigating the manifestations of the features of women's body in sports and differences in the assessment of the sports achievements of men and women as representatives of different psychological sexes (M. Messner, 2000; L. Shakhlina, 2006). , 2010). Gender researches of foreign scientists in the field of physical education and sport are aimed at solving the problem of gender equality in the choice of sports activities and studying the issue of the sport impact on the human body [11; 12; 13; 14]. Studying pupils' motivational priorities for physical education and sports, at the first step of our study, we stratified them in accordance with sexual grounds [9; 10]. Scientists claim that adolescence is considered not only a period of physical development, but also a unique stage of cognitive maturation; the self-esteem of boys and girls depends largely on stereotyping of men and women; and the differentiation of values takes place in accordance with male and female standards [8]. However, in the analyzed scientific sources, no fundamental papers were found that would investigate the interdependence of the formation of motivation for physical activity, the values of physical education and the gender characteristics of boys and girls. This issue substantiates the relevance of our research.

Scientific work is carried out within the framework of the topic approved by the Ministry of Education and Science of Ukraine: the code 1.2 F. «Historical and organizational - methodical principles of forming a gender approach in physical education of children, adolescents and youth «№ 0117U002386 UDC 796.011.3 ¬ 053.2 / - 53.7: 159.922.7.

The goal and the specific tasks of the article. The goal of the study is to determine the influence of participating in sports on shaping of the gender identity of boys and girls from different age groups.

Material and methods of the research: analysis of scientific and methodological literature, standardized testing by Sandri Bem's method «Masculinity-femininity», methods of mathematical statistics.

In the scientific experiment pupils of 3-11forms of general educational institution were involved. The results of the research were stratified according to the age range of physiological development of children and their biological sex. The accuracy of the difference between the distinct results was calculated according to the probability value $p < 0,05$ to $p < 0,01$. It raises the possibility of their consideration in developing practical recommendations for physical education teachers, as well as for further interpretations.

Statement regarding the basic material of the research and the justification of the results obtained. The femininity, masculinity, and the gender identity are considered to be very essential characteristics of the individual, which determine the gender characteristics of the personality, which are signs of masculinity or femininity. The Bem Sex-Role Inventory examines masculinity and femininity not as alternatives, but as independent personal qualities. Sandra Bem's concept of androgyny made a significant contribution to the masculinity-femininity dimension. She determined that the masculine type is characterized by the distinction of such personal qualities as persistence, authoritativeness, self-assertion, risk-loving, analytical thinking, self-confidence, self-sufficiency. The feminine personality type is characterized by such qualities as shyness, tenderness, empathy, knowledge how to comfort somebody, cheerfulness, warmth, trustiness and affection for children. The androgynous personality type is roughly equal in masculine and feminine personal qualities manifest itself in the combination of traditionally male and female characteristics in one person.

Bem Sex Role Inventory is one of the most used scientific tools to measure how people value themselves in terms of gender. The questionnaire contains 60 personality traits, which relate to stereotypes of

masculinity, femininity and androgyny. Respondents were asked to assess the presence or absence of the listed qualities. The importance sampling (IS) was determined by the corresponding formula. According to the testing results, firstly, the subjects were divided into feminine, masculine and androgynous subgroups.

Analysis of the obtained data determined that the overwhelming majority of boys and girls, regardless of age, have IS of androgynous type of personality. Among the 332 boys, 92.77% have preponderance of androgyny. Only 5.12% of boys have a gender identity of masculine type and 2.11% are characterized as feminine type. Of the 360 girls, 73.89% are referred to the androgynous type of personality, 28.2% to feminine, 2.78% of girls have masculine characteristics.

Taking into account the general data obtained in determining the IS and the fact that the vast majority of pupils were attributed to the androgynous type of personality, we were interested in the question: «Which personality traits that reflect the stereotypes of masculinity and femininity are identified by boys and girls from different age groups?» In this regard, we made an analysis of the character traits, identified by boys and girls. Self-belief is a character trait of ambitious and self-confident person. This quality was noticed by most boys regardless of age. Nonetheless, 96% of girls of the 3rd and 5th grades and 83% of girls of the 6th grade identify this trait in themselves. Then, from the 7th to the 10th grade - the number of girls who marked the «self-belief» decreases. It is worth pointing out that 100% of boys who are engaged in sports activities have chosen this trait. The quantitative difference between boys and girls was 30-40% in favor of boys. «Strong-willed personality» is the quality that scientists relegate to the masculine features of the personality. Most boys of the 3rd and 5th grades (from 60% to 70%) marked this trait. Persistence is also considered as masculine characteristic. In 15-20% of the cases, boys oftener than girls noted this trait in themselves. «Courage» is also considered as a purely male characteristic. 80% -100% of boys chose this trait. Interestingly, 96.5% of boys of the 3rd grade also marked «courage». In this case, we can assume that the choice of this trait by boys who study in the 3rd grade (8 years old) is more desirable than real. In our opinion, this may be the result of sex-role stereotypes. Eight-years-old boys define those qualities that they believe should be distinctive for the manly man, but not the traits they truly feel in themselves. This fact is confirmed by such a characteristic as «athleticism». 86.2% of 3rd grade boys are keen to be athletically built and they mistake the wish for the reality. On the other hand, boys who are engaged in artistic gymnastics are harder on themselves. Only 68.7% consider themselves athletically built. Girls did not vest interest in the point «athletic». Only 14.6% of girls of the 5th grade who are engaged in sports activities marked this trait. By the 11th grade, the percentage of «athletic» girls decreased from 16.6% to 13.3%. «Faithfulness» was mostly chosen by the girls. Comparing the age division of girls, we see that in the 3rd grade - 96% chose this quality, and only 46% of girls of the 9th grade chose this trait. It is remarkable that 87.5% of boys (17 years old) who are engaged in artistic gymnastics marked the «faithfulness» as trait that is inherent to them. 20 % more boys than girls noted «analytical skills». We have determined that a sufficiently high percentage of girls note the character traits, which traditionally refer to masculine characteristics. The «risk-loving» was chosen by girls from 5th to 11th grades in 40%-60%. «Aptitude for leadership» is more often marked by boys than girls. Nevertheless, a fairly high percentage of girls (56% - in the 3rd grade, 35.7% - in the 5th, 41% - in the 6th, 46% - in the 11th) consider themselves person with «leadership abilities.» Furthermore, 40% - 60% of girls from the 5th to the 11th grade chose «risk-loving» as one of their personal qualities. With a difference of 10 - 15%, «cheerfulness» is also marked more often by boys. «Love for children» was noted more often by girls than boys, but with a small difference in favor of girls. For example, in the 3rd grade 72.4% of boys and 100% of girls; in the 5th grade 60% of boys and 71.4% of girls; in the 6th grade 73.9% of boys, 88.2% of girls. Later, the percentage of respondents who noted the «love for children» as their personality trait decreases both in boys and girls. For example, among students of the 9th grade: 47.3% of boys, 57.6% of girls; 10th grade: 58.3% of boys, 73.3% of girls. It was also found that a high percentage of boys noted psychological characteristics that are traditionally considered feminine. For example: «shyness» was identified by 62% of boys who are studying in the 3rd grade, 33% of boys of the 5th grade, 40% of boys of the 7th grade and 59% - of the 8th grade. With age, the percentage of boys who chose «shyness» has become lower. «Tenderness» is also considered to be more feminine quality. However, 62% of boys of the 3rd grade, 53.9% of the 5th grade, 53% of the 7th grade, 81% of the 8th grade, and 64% of the 11th grade marked this as their character trait. 87.5% of boys who are engaged in artistic gymnastics consider «faithfulness» to be their character feature. Only 5.88% of female athletes noted such a characteristic as «animus toward abusive language», while 17.65% consider it acceptable for them. Just 5.8% of female

athletes noted the character features that are considered to be the feminine characteristics of the individual («shyness», «with-draw behavior», «faithfulness»). 29.41% of female athletes did not mark such qualities.

The obtained data give us the reason to state the presence of masculine and feminine personality traits in boys and girls at the same time. This fact is also confirmed by the aforementioned total number of respondents who, according to the tests results, were attributed to the androgynous type of personality. That is, we can see that purely masculine qualities are marked more often by boys, and feminine - by girls. However, it is possible that this may be a result of sex-role education at school, which forms a definite stereotypical behavior of boys and girls. On the other hand, it was recorded that boys mark the feminine traits of the character, and the girls mark masculine qualities. For more detailed information on the definition of gender identity among pupils, we analyzed obtained data about the masculine character traits, marked by the pupils at the group level. (Table 1 - 4).

Results prove that, with age, boy's masculine psychological characteristics become more intensified (out of 20). There are self-assertion (from 52, 27% to 83, 02%), independence (from 52.27% to 64.15%), persistence (from 54.55% to 62.26%), self-sufficiency (from 40, 91% to 79.25%), personal attitude (from 50.0% to 73.58%).

Table 1

Dynamics of the manifestation of signs of masculinity of boys by age, %

	Masculine qualities	**Age group**			
		10 years old	**11-13 years old**	**14-15 years old**	**16-17 years old**
Which are increasing with age					
1	Self-assertion	52,27	63,16	68,60	83,02
2	Independence	52,27	60,53	53,49	64,15
3	Persistence	54,55	47,37	45,35	62,26
4	Risk-loving	40,91	78,95	53,49	79,25
5	Self-sufficiency	40,91	34,21	46,51	64,15
6	Personal attitude	50,00	50,00	46,51	73,58
Which are decreasing with age or become less explicit					
1	Self-confidence	95,45	89,47	74,42	77,36
2	Athleticism	72,73	57,89	54,65	60,38
3	Strong-willed personality	70,45	47,37	51,16	49,06
4	Strength	88,64	73,68	73,26	75,47
5	Analytical thinking	61,36	44,74	40,70	47,17
6	Leadership abilities	65,91	65,79	52,33	49,06
7	Quick in decisions	59,09	73,68	45,35	54,72
8	Courage	88,64	89,47	65,12	77,36
9	Personalism	61,36	39,47	47,67	58,49
10	Competitiveness	81,82	63,16	56,98	67,92
11	Ambitiousness	36,36	28,95	31,40	33,96
12	Assertiveness	25,00	21,05	27,91	26,42
13	Aggressiveness	25,00	26,32	25,58	37,74
14	Ability to lead the way	43,18	50,00	38,37	47,17

At the same time, at the group level, some signs of masculine qualities are reduced: self-confidence (from 95.45% to 77.36%), strong-willed personality (from 70.45% to 49.06%), strength (from 88.64% to 75.77%), leadership abilities (from 65.91% to 49.06%), courage (from 88.64% to 77.36%), and competitiveness (from 88.82% to 67.92%) (Table 1).

Analysis of the manifestation of the qualities of masculinity in girls proves that, with age, the following masculine characteristics increases the manifestation: self-assertion (from 47,17% to 67, 50%), self-sufficiency (from 32,08% to 46,25%) , risk-loving (from 30.19% to 52.50%), personal attitude (from

35.85 % to 55.0%), personalism (from 33.96% to 55.0%), ambitiousness (from 24.53% to 47.50 %), aggressiveness (from 16.98% to 22.50%) (Table 2). Also, at the group level, it is possible to note the decline in the manifestation of character traits, which are considered to be the main signs of masculinity: self-confidence (from 96,23% to 73,75%), athleticism (from 62,23% to 12.50%), strength (from 58.49 % to 38.75%), analytical thinking (from 49.06% to 23.75%), leadership abilities (from 45.28% to 33.75 %), courage (from 62.2% to 17,5%), quick in decisions (from 64,15% to 41,25%), competitiveness (from 54,72 % to 52, 0%). Consequently, it was found out that at the group level the signs of masculinity increase with age in boys and girls on the same level.

Table 2

Dynamics of the manifestation of signs of masculinity of girls by age, %

	Masculine qualities	Age group			
		10 years old	11-13 years old	14-15 years old	16-17 years old
Which are increasing with age					
1	Self-assertion	47,17	65,52	53,57	67,50
2	Risk-loving	30,19	48,28	42,86	52,50
3	Personal attitude	35,85	24,14	46,43	55,00
4	Personalism	33,96	41,38	44,64	55,00
5	Self-sufficiency	32,08	17,24	37,50	46,25
6	Ambitiousness	24,53	31,03	32,14	47,50
7	Aggressiveness	16,98	20,69	26,79	22,50
Слабо виражені або знижуються з віком					
1	Self-confidence	96,23	93,10	53,57	73,75
2	Athleticism	62,26	31,03	23,21	12,50
3	Strength	58,49	62,07	41,07	38,75
4	Quick in decisions	64,15	48,28	46,43	41,25
5	Courage	62,26	20,69	21,43	17,50
6	Competitiveness	54,72	34,48	32,14	40,00
7	Independence	45,28	44,83	51,79	46,25
8	Persistence	43,40	37,93	32,14	41,25
9	Strong-willed personality	49,06	44,83	57,14	41,25
10	Analytical thinking	49,06	37,93	28,57	23,75
11	Leadership abilities	45,28	37,93	39,29	33,75
12	Assertiveness	22,64	17,24	19,64	11,25
13	Aggressiveness	16,98	20,69	26,79	22,50
14	Ability to lead the way	39,62	34,48	28,57	35,00

The next question that interested us: «Does engaging in sports activities play a role in shaping certain psychological characteristics of a person?» According to scientists, physical training and sports, as an institution of socialization, is one of the highly specialized spheres of human activities, and is also able to form the gender qualities of an individual. According to the principle, personality form and manifest themselves in response to sporting activities (Leontiev AN, 1975; Rubinshtein SL, 2000). The obtained results of the research allowed us to confirm certain opinion of some scholars about the influence of sports on the formation of masculine character traits (to a greater extent, the female representatives) [5; 6; 7]. It was also found that male athletes have, to a lesser extent, feminine character traits. According to the test results by Bem's methodology, only 5.81% of boys have masculine characteristics, 2.33% of respondents have feminine characteristics, androgenic personality type have 91.86% of athletes. Among female athletes 27.3% has masculine characteristics. This is 20% more compared to the number of masculine qualities in boys. Feminine psychological type correspond to 13.6% of girls engaged in sports activities; androgynous type - 59.1%. The obtained test results prove that all girls, without exception, have the masculine psychological type of character. In general, among taekwondo practitioners, the tendency toward masculinity is more typical for girls than for boys.

As already noted, information, obtained by the methodology of Sandra Bem, was not informative about the impact of sports on the gender characteristics of pupils. In this regard, we have done the analysis of the qualities and character traits that were marked by athletes. As a result of our work, we determined

the dynamics of the manifestation of signs of masculinity in boys and girls engaged in sports activities (Table 3-4).

Consequently, the manifestation of masculinity properties with age increases in 15 -20 positions in the boys engaged in sports activities (Table 3). This is more than 50% than the total number of boys. It is worth noting that even those masculine features of a person with a small manifestation (less than 50%) have a dynamics of increase. That is, the masculine character traits are increasing by almost 100% in athletes with age. These are the following traits: self-confidence (from 78.26% to 92.50%), self-assertion (from 76.09% to 82.50%), independence (from 47.83% to 65, 0%), persistence (47.83% to 65.0%), strong personality (from 50.0% to 52.0%), ability to risk (from 54.35% to 85.00%), self-sufficiency (56.52% to 67.50%), own position (from 47.83% to 77.5%), athleticism (from 54.35% to 62.50%), personalism (from 58.7% to 65,00%), competitiveness (56.52% to 65.00%), perseverance (from 47.83% to 62.5%), Quick in decisions (from 39.13% to 55.0%) courage (from 58.7% to 77.5%) and aggressiveness (from 32.61% to 42.5%).

Table 3

Dynamics of the manifestation of signs of masculinity of boys engaged in sports activities, %

	Masculine qualities	**Age group**			
				14-15 years old	**16-17 years old**
Which are increasing with age					
1	Self-confidence			78,26	92,50
2	Self-assertion			76,09	82,50
3	Independence			47,83	62,50
4	Athleticism			54,35	62,50
5	Persistence			47,83	65,00
6	Strong-willed personality			50,00	52,00
7	Strength			71,74	77,50
8	Risk-loving			54,35	85,00
9	Quick in decisions			39,13	50,00
10	Self-sufficiency			56,52	67,50
11	Courage			58,70	77,50
12	Personal attitude			47,83	77,50
13	Personalism			58,70	65,00
14	Competitiveness			56,52	65,00
15	Assertiveness			32,61	42,50
Which are decreasing with age or become less explicit					
1	Analytical thinking			45,65	47,50
2	Leadership abilities			56,52	47,50
3	Assertiveness			23,91	25,00
4	Ability to lead the way			45,65	47,50
5	Ambitiousness			39,13	35,00

According to the results of our research, the signs of masculinity in girls who are engaged in sports activities are more for 30% than in the total number of pupils who participated in the research. Female athletes have more masculine characteristics, they are distinguished by a higher self-esteem of a range of qualities that are usually associated with courage, will-power and higher aggressiveness. However, in comparison with boys, girls have less such qualities. With age, their manifestation increases on only 10 points, what is almost for 50% fewer than of boys (Table 4).

Thus, with age at female athletes, the following masculine traits of character and individual qualities are increasing: self-belief (from 53.57% to 73.75%), self-assertion (from 53.57% to 67.50%), persistence (from 32.14% to 41.25%), risk-loving (from 42.86% to 52.50%), self-sufficiency (from 37.50% to 46.25%), personal attitude (from 46.43% up to 55.00%), the ability to lead the way (from 28.57% to 35.0%), personalism (from 44.64% to 55.00%), competitiveness (from 32.14% to 40.0 %) and ambitiousness (from 32.14% to 47.50%).

Table 4

Dynamics of the manifestation of signs of masculinity of girls engaged in sports activities, %

	Masculine qualities	Age group			
				14-15 years old	16-17 years old
Which are increasing with age					
1	Self-confidence			53,57	73,75
2	Self-assertion			53,57	67,50
3	Risk-loving			42,86	52,50
4	Personal attitude			46,43	55,00
5	Personalism			44,64	55,00
6	Persistence			32,14	41,25
7	Self-sufficiency			37,50	46,25
8	Ability to lead the way			28,57	35,00
9	Competitiveness			32,14	40,0
10	Ambitiousness			32,14	47,50
Which are decreasing with age or become less explicit					
1	Independence			51,79	46,25
2	Strong-willed personality			57,14	41,25
3	Athleticism			23,21	12,50
4	Strength			41,07	38,75
5	Analytical thinking			28,57	23,75
6	Leadership abilities			39,29	33,75
7	Quick in decisions			46,43	41,25
8	Assertiveness			19,64	11,25
9	Courage			21,43	17,50
10	Aggressiveness			26,79	22,50

Analysis of the research into this problem. Scientists have proven that masculinity, androgyny, femininity as psychological characteristics of the individual are formed in the process of socialization in accordance with the normative constructs for boys and girls; and their manifestation is an important component of the gender identity of the individual [3]. Gender socialization continues throughout person's life. It affects the formation of a gender identity of the individual [12]. Researchers consider the family, parents, school, friends, peers, and the media as agents of socialization. We agree with this opinion, but we believe that physical training and sports are undoubtedly one of the essential means of gender socialization of pupils. The behavioral patterns and personal qualities that form gender are established with the help of the selection of means and methods of sports activities, commitment to physical activity that pupils like. We consider, that the formation of motivation for physical activity and values of physical education can also depend on the gender differences of boys and girls.In our research, we refer to the opinion of scholars who believe that people's biological sex is the basis of gender identity; and sexual differentiation becomes important for an individual only when it is included in its activities. The essence of the activity approach to the problem of sexual differentiation is to determine the place and role of activity in the formation of the psychological sex, both in the context of ontological development, and in the historical and cultural aspect of the formation and functioning of relevant norms and patterns of gender-role behavior [6]. Formation of sexual differentiation obey the laws of age development, which are formulated in the scientific works of Vygotsky: «The biological factor determines the foundation, basis of inherent reactions beyond which the body is unable to expand and over which the system of acquired reactions is built up; this new system is entirely determined by the structure of the environment in which the organism grows and develops» [2].

Such psychological features as masculinity, femininity, and androgyny are formed in accordance with sociocultural norms of society. The results of our research coincide with the results of researches conducted by A. M. Maers, H. M. Lips., S. Spence, R. Helmrich, which testify that girls engaged in sports activities perfectly combine a range of masculine qualities with a high femininity [14; 15; 16; 17].

Conclusions and prospects for further research. Thus, analysis of the obtained data determined that the overwhelming majority of boys and girls, regardless of age, have IS of androgynous type of personality. Among the 332 boys, 92.77% have preponderance of androgyny. Among the 360 girls, 73.89% have

preponderance of androgyny. It is noteworthy that masculine personality traits of boys are 20% - 40% higher than girls', but 40% oftener feminine qualities are marked by girls. The obtained results of the research allowed us to conclude about the influence of sports on the formation of masculine character traits. The obtained results prove that sport contributes to the shaping of some masculine character traits of pupils from different age groups. Girls engaged in sports activities have more masculine traits than those not involved in sports. They are distinguished by a higher self-esteem of a range of qualities that are usually associated with courage, will-power and higher aggressiveness. Male athletes in comparison with the total number of boys have lesser manifestations of feminine characteristics of personality.

Therefore, we believe that physical education has a huge potential of emotional and physical influence on the formation of the gender identity of pupils and their appreciation of femininity and masculinity. This can directly influence the formation of life values of pupils in general, including the formation of values in the field of physical education. Thus, summing up the foregoing, we believe that the use of the gender approach in the theory and method of physical education provides ample opportunities for rethinking the concepts of physical education, but at the same time it is necessary to realize that this is not just a new theory, but a theory which adoption implies a change in value orientations and a review of many established ideas about the research topic. Therefore, our further research will be devoted to the study of the influence of the psychological sex (masculinity, femininity, and androgyny) on the motivational priorities of pupils from different age groups in the field of physical education and sports.

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DYNAMICS OF DAILY LIVING ACTIVITIES INDICATORS IN PERSONS WITH SPINAL CORD AND VERTEBRAL COLUMN INJURY UNDER THE INFLUENCE OF ACTIVE REHABILITATION CAMPS

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Abstracts

Topicality. Today, the soldiers who have been injured as a result of hostilities are added to people who receive injuries of the spine and spinal cord in living conditions or in traffic accidents. Invalidation of these persons lies the loss of the ability to move or carry out activities in daily living independently. This article describes the impact of active rehabilitation camps (ARC) on improving self-care in the daily living of persons with spinal cord and vertebral column injuries. ***The purpose*** of the study is to determine the effectiveness of the ARC program for persons with spinal cord and vertebral column injuries. The effectiveness of the ARC program has been analyzed using the Barthel Activity of the Daily Living (ADL) Index in two stages, in 2004–2009 and 2013–2017. The study covered 204 people, of which 84 persons with cervical spine and spinal cord injuries, 62 with thoracic spine and spinal cord injuries, and 58 persons with lumbar spine and spinal cord injuries. The ARC program has proven a 25% increase in most indicators of everyday life. The best results have been attributed to the movement of one's own body in space, improvement of dressing skills, and overcoming of architectural obstacles. The major difficulties for ARC refer to stair climbing, independent bathing and defecation skills. It has been established that the growth of life activity indicators depends on the severity of injury, which contributed to division of participants of the experiment into groups of similar injuries.

Key words: spinal cord and vertebral column injury, active rehabilitation camps, rehabilitation, Barthel scale, activities of daily living.

Оксана Федорович, Аліна Передерій. Динаміка показників активності повсякденного життя осіб із травмами хребта та спинного мозку під впливом таборів активної реабілітації. ***Актуальність.*** Нині до осіб, які отримують травми хребта та спинного мозку в побутових умовах чи під час дорожньо-транспортних пригод, додаються й військові, які постраждали внаслідок бойових дій. Інвалідизація таких людей полягає у втраті можливості самостійно пересуватися чи виконувати побутові дії. У цій статті описано вплив таборів активної реабілітації (ТАР) на покращення рівня самообслуговування в повсякденному житті осіб з ураженням хребта й спинного мозку. ***Мета дослідження*** – визначити ефективність застосування програми ТАР для осіб з ураженням хребта та спинного мозку. Аналіз ефективності застосування програми ТАР здійснено за допомогою індексу активності повсякденного життя Бартела (Barthel Activities of Daily Living (ADL) Index) за два етапи, протягом 2004–2009 і 2013–2017 рр. Дослідженням охоплено 204 особи, із яких 84 – з ураженням шийного відділу хребта й спинного мозку, 62 – з ураженням грудного відділу хребта й спинного мозку та 58 – поперекового відділу хребта й спинного мозку. Установлено, що програма ТАР має в більшості показників

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повсякденного життя приріст у межах 25 %. Найкращі результати пов'язані з переміщенням власного тіла в просторі, освоєнням навичок одягання, долання архітектурних перепон. Найважче учасникам ТАР було освоїти долання сходових маршів, прийняти ванну й самостійно виконати акт дефекації. Установлено, що приріст показників активності життя залежить від рівня ураження, що зумовило розподіл учасників експерименту на рівноцінні за ураженням групи.

Ключові слова: травма хребта й спинного мозку, табори активної реабілітації, реабілітація, шкала Бартела, повсякденна життєдіяльність.

Оксана Федорович, Алина Передерий. Динамика показателей активности повседневной жизни лиц с травмами позвоночника и спинного мозга под влиянием лагерей активной реабилитации. ***Актуальность.*** В наше время к лицам, которые получают травмы позвоночника и спинного мозга в бытовых условиях или во время дорожно-транспортных происшествий, добавляются и военные, пострадавшие в результате боевых действий. Инвалидизация этих людей заключается в потере возможности самостоятельно передвигаться и выполнять некоторые бытовые действия. В статье описывается влияние лагерей активной реабилитации (ЛАР) на улучшение уровня самообслуживания в повседневной жизни у лиц с травмой позвоночника и спинного мозга. ***Цель исследования*** – определить эффективность применения программы ЛАР для лиц с травмой позвоночника и спинного мозга. Анализ эффективности применения программы ЛАР осуществлялся при помощи индекса активности повседневной жизни Бартела (Barthel Activities of Daily Living (ADL) Index) в два этапа в течение 2004–2009 и 2013–2017 гг. Исследованием охватили 204 человека, из которых 84 – с поражением шейного отдела спинного мозга, 62 – с травмой грудного отдела спинного мозга и 58 – поясничного отдела позвоночника и спинного мозга.

Установлено, что программа ЛАР имеет в большинстве показателей повседневной жизни прирост в пределах 25 %. Лучшие результаты достигнуты в выполнении заданий, связанных с перемещением собственного тела в пространстве, освоением навыков одевания, преодоления архитектурных преград. Наиболее сложным для участников ЛАР было освоение лестничных маршей, принятие ванны и самостоятельное выполнение акта дефекации.

Ключевые слова: травма позвоночника и спинного мозга, лагеря активной реабилитации, реабилитация, шкала Бартела, повседневная жизнедеятельность.

Formulation of a research problem and its significance. The spinal cord and vertebral column injury is one of the most traumatic ones,which result in a disablement in 90-95% of all the cases, even in those when the patient was given timely and full aid at the acute stage of injury [5; 6; 11; 12]. The most vulnerable part during the healing of such patients is the restoration of motor functions, which can last for one year after injury and affect the degree of autonomy of such persons in everyday life [7; 8]. Actually, the restoration of motor functions of people with the vertebral column and spinal cord injury is a prerequisite for further socialization, physical adaptation and independence in every day life[1; 4; 12].

Since the rehabilitation process of such individuals is quite long, one of its important factors is the right approach to the restoration of motor functions and well-considered programs of adaptation and socialization of such persons at later stages.One of the important areas of rehabilitation at distant stages is a program of active rehabilitation camps that includes the entire spectrum of theoretical and practical disciplines for a fast, complete and well-balanced assimilation of practices, techniques and methods necessary for a full-fledged life of a person with a vertebral column and spinal cord injury[3; 9; 10]. The ARC program is based on the personal experience of people who suffered the vertebral column and spinal cord injury, which enables to avoid the mistakes that can sometimes be observed when applying classic rehab programs [1; 2; 3].

The goal and the specific tasks of the article. To determine the effectiveness of the active rehabilitation camp program for persons with the vertebral column and spinal cord injury and evaluate its impact on the daily activities of its participants.

Material and methods. In the course of the study, Barthel Activities of Daily Living (ADL) Index was applied to assess the effectiveness of the ARC program, which was worked out using mathematical statistics methods, namely the use of the Pearson's chi-squared test, я-test, and cluster analysis. The active rehabilitation camps program involves taking part in such types of motor activity as wheelchair riding

techniques, strength exercises, table tennis, swimming and archery. In addition, the ARC program includes self-service classes.Training sessions last for almost the whole day (roughly, from -180h) .Each discipline requires from the participant the maximum independent performance of actions concerning moving in a wheelchair, moving the body to different surfaces, dressing up, crossing, etc. An intensive course for the participants allows them to quickly and effectively master certain skills in the field of self-service, which was the subject of scientific research .Therefore, this article gives an overview of the effectiveness of the active rehabilitation camp program, which was carried out by measuring the Barthel's ADL Index, which includes 10 indicators: control of bowel movements, urinary control, personal hygiene, toilet attendance, eating, movement, mobility, dressing up, climbing stairs, bathing.It should be noted that the Barthel Index provides two levels of indicators evaluation 'personal hygiene' and 'bathing': 0 points «dependent» or 5 points «independent».The indicators such as «mobility « and « moving» have a maximum number of evaluation levels (0 points is «fully dependent», 5 points «require significant side assistance», 10 points - «help needed» and 15 points - «completely independent»).The remaining 6 criteria are evaluated at 0, 5 and 10 points, respectively, « dependent», «need support» and «independent» [4; 9].

Statement regarding the basic material of the research and the justification of the results obtained. In order to get the correct results, the participants in the experiment were divided into three groups according to the possibilities of performing the tasks, namely a group of patients with the cervical spine injury, thoracic spine injury and lumbar spine and spinal cord injury.In addition, these groups were divided according to the stages of the study : 2 groups of patients with the cervical spine and spinal cord injury, 61 persons (2004-2009) and 23 persons (2013-2017); 2 groups with the thoracic spine and spinal cord injury, 29 persons (2004-2009) and 33 persons (2013-2017); and 2 groups with lumbar spine injury, 29 persons (2004-2009) and 29 (2013-2017).

The dynamics of the examined indicators in the group of ARC participants with the cervical spine and spinal cord injury (61 persons) shows that 10 out of 8 indicators have been significantly improved as a result of the ARC program. Thus, with the indicators of «control of defecation» and «control of urination» the changes in the Pearson's chi-squared test are statistically significant.Instead, the z-test shows that these indicators did not show statistically significant changes ($p < 0.05$) .Similar results of statistical analysis were obtained for the indicators of «personal hygiene» and «bathing», but in contrast to the previous comparison, the Pearson's chi-squared test has no statistically significant changes, only the z-test shows positive changes. It is assumed that although the changes that took place according to these indicators, are verified by one of the tests as statistically significant, they could still not be substantially expressed in terms of improving functions in such a short period of time. The development and improvement of these indicators («control of defecation», «control of urination», «personal hygiene», «bathing») requires more time.

When processing the initial data of the «personal hygiene» indicator, 28% of the surveyed had «0» score, and, accordingly, 72% had a maximum score of «5».At the final evaluation, after passing the ARC, these figures have changed for the better in the range of 8%, that is, 0 points were received by 20% of camp participants and, accordingly, 80% of the surveyed received an assessment of 5 points.

The best dynamics of the results was demonstrated by the participants of the experiment in such a skill as «toilet attendance», in which at the beginning of the experiment, 64% of participants had 0 points, and at its completion a «0» point was received by 22%, and the number of people who had a «5» score increased from 36% to 78%.Also, some positive results were recorded in the «moving» and «dressing up» indicators, where there were some changes from 80% and 82% of those who had 5 points at the beginning of the ARC, to 64% and 53%, respectively, who got 10 points at the end of the experiment.

It should be emphasized that changes in such indicators as «toilet attendance», «eating», «moving», «dressing up» and «climbing stairs», both for Pearson's chi-squared test and z-test are statistically significant ($p > 0.05$).It is assumed that the collected statistically significant changes in these indicators are due to the application of such disciplines as wheelchair riding techniques, swimming, athletic gymnastics and self-service classes, which involve crossing into different planes, moving the body on different surfaces, dressing

and undressing and overcoming of architectural barriers in a wheelchair with the use of special training techniques that are necessary for people with spinal cord injury at the level of the cervical spine and help improve performance in the short term [4; 6; 9].

The indicator of «mobility» has not undergone any changes, since according to the evaluation procedure people with tetraplegia, who use a wheelchair, get 5 points as soon as they meet the condition of using a wheelchair with a demonstration of the ability to get around the corners and use the door.

A cluster analysis was also carried out to confirm the obtained data. The comparison of the initial data with the final data according to the results of cluster analysis, enables to point out that the significant changes occurred in 7 indicators out of 10. The indicators of «mobility», «bathing» and «control of urination» do not show any positive changes in this category of the surveyed. The indicators of «control of bowel movements» and «personal hygiene» also do not demonstrate any statistically significant shifts to the positive side, which indicates a need in a longer period of training, or in a constant assistance in performing these tasks.

The changes in the index of daily living activity indicators in the second group of the surveyed with a similar level of the spinal cord injury are similar to the changes recorded in persons from the first group. 6 indicators out of 10 had some significant improvements according to the Barthel ADL index. These indicators are «control of bowel movements», «toilet attendance», «eating», «movement», «climbing stairs» and «bathing».

It should be noted that in comparison to the first group, there is a significant number of people (78 %) with spinal cord injury at the level of C6-C7 in the second group, indicating that this group is potentially stronger physically than the previous one .It is assumed that the absence of statistically significant changes in the indicators of personal hygiene, dressing, mobility, and urinary control is associated with the high enough scores at the beginning of the study,which would not be able to improve significantly in these indicators.

In order to compare the initial data to final data, a cluster analysis also was applied, which enabled to confirm that the participants of the survey achieved the best results in the «eating», «moving» and «dressing up».

This analysis suggests that «climbing stairs» and «bathing» did not reveal any positive changes in this category of the surveyed.Also, «control of bowel movements», «control of urination» and «personal hygiene» have changed positively only among 14 people, which makes up about 60 % , while 40 % of participants had minor changes with this indicators.

The final analysis of the total points according to this test shows quite high-quality changes of the indicators among the participants. If the patient gains 0-20 points , It is a full dependence, 21-60 points is a great dependence, 61-90 is a moderate dependence, 91-99 is a slight dependence, 100 is complete independence (Table.1).

The dynamics of these indicators in the group of ARC participants with the thoracic spine and spinal cord injury (29 people) shows that there has been a significant improvement of 6 indicators out of 10 as a result of the ARC program's progress. This is evidenced by the results of the statistical analysis using the Pearson's chi-squared test and z-test criteria. Thus, the indicators of « control of bowel movements», «toilet attendance», «movement», «mobility», «dressing up» and «climbing stairs» have statistically significant changes according to the Pearson's chi-squared test and z-test criteria with a level of significance equal 0.05. Also, in the analysis of the «control of urination», the Pearson's chi-squared test criterion shows statistically significant changes that are not confirmed by the z-test criterion.The initial results for this indicator were: 13.8% of camp participants had a '0' point, 68.96% of people were rated «5» and 17.24% had «10» points.

At the end of the camp program, the indicators changed to the following: 0 points were not received by any camp participant, 58.62% received «5» points and «10» points were received by 41, 38%. The data of cluster analysis also confirms the fact that the indicators have changed in the direction of a significant improvement.

It can be asserted that most indicators have changed for the better. As for indicators of «personal hygiene» and «bathing», statistically significant changes are also not observed. The «eating» indicator has minor changes towards improving.

Table 1

The final analysis of the total score of the Barthel ADL index indicators of ARC participants with a cervical spine injury during (n = 84)

Groups	Levels of total score	at the beginning of ARC	%	At the end of ARC	%
2007-2010 n = 61	Full dependence	15	24.6%	3	4.9%
	Great dependence	46	75.4%	54	88.5%
	Moderate dependence	0	0	5	6.6%
	Slight dependence	0	0	0	0
	Independence	0	0	0	0
2014-2017 n = 23	Full dependence	6	26%	1	4.35%
	Great dependence	17	74%	21	91.3%
	Moderate dependence	0		1	4.35%
	Slight dependence	0		0	0
	Independence	0		0	0

This group can be identified as the one that shows good results in the «control of urination» and «toilet attendance», which was directly in consequence of the persistent work of instructors, that involved daily monitoring of the participants for the performance of certain self-service tasks.

In the second group, people with the thoracic spine and spinal cord injury (33) (2013-2017), the change of indicators during the ARC shows that 10 out of 8 indicators have been significantly improved as a result of the ARC program's progress, which is evidenced by the results of the statistical analysis.Thus, these changes are statistically significant both in the Pearson's chi-squared test and in the z-test with the significance level of 0.05 in the indicators of «toilet attendance», «movement», «mobility», «climbing stairs» and «bathing».

The best dynamics of the results have been demonstrated by participants in this experiment for tasks such as «moving», «mobility» and «bathing». A comparison of the data at the beginning of the experiment to the data at the end of the experiment captures the changes within 50 %.For example, when evaluating the indicator of «moving» at the beginning of the experiment 69.7% of the participants had «10» points , and 30.3% of the people had «15» points, respectively, then at the end of the experiment, 68% of persons got «15», and 32% got «5».

It can be assumed that the obtained statistically significant changes in most indicators is also due to the appliance of such disciplines as «wheelchair ride techniques», «swimming», «athletic gymnastics» and «self-service classes» in the ARC program .It should also be noted that such activities as «table tennis « and «archery» have a positive influence on the training of balance in the wheelchair, which is very useful for the people with the thoracic spine and spinal cord injury [3; 9].

The analysis of the indicators of the two groups the thoracic spine and spinal cord injury, carried out at different times, allows to record positive changes in the representatives of both groups after undergoing the active rehabilitation camps.The data from the tables of the summary results (Table 2) shows that the groups

that got into the camps before 2009 and after the end of 2014 differ from each other in both the initial indicators and the final ones.It can be assumed that these differences are determined by the higher level of capabilities of the second group people. This, in turn, can also indicate a better situation with the rehabilitation process at the acute stage of injury.

Table 2

The final analysis of the total score of the indicators of the Index for Activities of Daily Living (ADL) of ARC participants the thoracic spine injury during (n = 62)

Groups	Levels of total score	at the beginning of ARC	%	at the end of ARC	%
2007-2010 n = 29	Full dependence	0	0	0	0
	Great dependence	28	96.5%	7	24.1%
	Moderate dependence	1	0.5%	22	75.9%
	Slight dependence	0	0	0	0
	Independence	0	0	0	0
2014-2017 n = 33	Full dependence	0	0	0	0
	Great dependence	8	24.25%	0	0
	Moderate dependence	25	75.75%	25	75.75%
	Slight dependence	0	0	4	12,125%
	Independence	0	0	4	12,125%

In the group of people with the lumbar spine and spinal cord injuries (29 people), the dynamics of indicators shows that 10 indicators out of 5 (toilet attendance, movement, mobility, climbing the stairs and bathing) have been significantly improved as a result of the ARC program's progress, which is evidenced by the statistical results analysis applying the Pearson's chi-squared test and the z-test. The indicators of «eating» and «personal hygiene» were estimated at the beginning of the camp program and, respectively, did not show any changes at the end of the program. The indicators of «control of bowel movements» and «control of urination» changed among a small number of people, which did not affect the overall result, but these indicators showed a tendency for improvement.

In return, the changes in «toilet attendance», «mobility» and «bathing» are statistically significant both for the Pearson's chi-squared test and the z-test with a level of significance equal 0.05. Similar results were obtained when applying a cluster analysis.

The analysis of the dynamics of the «movement» and «climbing the stairs» indicators according to Pearson's chi-squared test shows that the calculated coefficients are greater than the critical ones, which was not revealed by the z-test.Therefore, in order to confirm statistically significant changes, a cluster analysis was also applied, the results of which indicate the presence of changes in the indicator of «movement» and can be considered statistically significant. As a result of undergoing the ARC program for 12 people, which is 41,4%, the «movement» indicator changed from «10» to «15», while «climbing stairs» indicator has changed slightly, an improvement from the «5 « to the «10» was received only by 4 people, representing 13.8% of the surveyed.

It should be noted that according to the analysis , the best results in this group of the surveyed were achieved in the «bathing» indicator, where changes in the improvement of this ability during the ARC

occurred in 44.8% of the surveyed. The ability to «climb stairs» had the least amount of changes, where many people remained at the level of «need for significant assistance» and even two people who were completely dependent on assistance. It can be assumed that this skill requires considerable effort and time to master certain techniques. A significant number of people using a wheelchair do not master this ability towards a complete independence.

In the next group, the change in the indicators during the ARC with lumbar spine and spinal cord injuries (29 people, 2013-2017) shows that 5 indicators out of 10, have also been significantly improved as a result of the ARC program, which is evidenced by the results of the statistical analysis. As for the «eating» and «personal hygiene» indicators that have not shown any changes, it can assumed that they will not be higher because they are highly evaluated at the beginning of the camp.

The «control of bowel movements» and «urinary control» indicators showed changes among a small number of people that did not affect the overall result, and showed only tendencies for change, as well as in the previous group.

The obvious changes occurred in the «toilet attendance», «mobility» and «bathing» indicators, and these changes are statistically significant both by the Pearson's chi-squared test and by the z-test with a level of significance equal 0.05. The same results are confirmed by the cluster analysis.

Analyzing such indicators as «movement» and «climbing stairs», according to the Pearson's chi-squared test, the calculation coefficients are higher than the critical ones, but the z-test does not show such changes. Therefore, a cluster analysis also was applied to confirm statistically significant changes, and its data shows the change in the indicator of «movement» from «10» points to «15» points; «climbing stairs» indicator also changed and the improvement from «5» to «10» points took place in 20,7% of the surveyed, which is 6people, and from «0» points to «5» - in 10,35% of the surveyed, which is 3 persons, but in general changes have taken place in 31,05% of the surveyed.

It should be noted that, as in the previous group, according to the analysis, the best results in this group of surveyed were achieved in the «bathing» indicator, where changes occurred in 51.7% of the surveyed.The indicator of «dressing up» was changed the least. The analysis of the summary indicators of the two groups (Table 3), which was surveyed at different times, showed positive changes in both groups after undergoing the active rehabilitation camps. The groups of individuals with an injury at the level of the lumbar spine are equivalent .In both groups, the participants substantially improved their skills in the short run of the ARC program.

Table 3

The final analysis of the total score of the indicators of the Index for Activities of Daily Living (ADL) of ARC participants with the thoracic spine injury during (n = 58)

Groups	Levels of total score	at the beginning of ARC	%	at the end of ARC	%
1	**2**	**3**	**4**	**5**	**6**
2007-2010 n = 29	Full dependence	0	0	0	0
	Great dependence	4	13.8%	0	0
	Moderate dependence	24	82.75%	21	72.4%
	Slight dependence	1	3.45%	4	13.8%
	Independence	0	0	4	13.8%

End of the Table 3

1	2	3	4	5	6
2014-2017 n = 29	Full dependence	0	0	0	0
	Great dependence	4	13.8%	0	0
	Moderate dependence	24	82.75%	22	75.86%
	Slight dependence	1	3.45%	4	13.8%
	Independence	0	0	3	10.34%

Conclusions and prospects for further research. The program of the active rehabilitation camp involves intensive physical activity, which significantly positively affects the dynamics of self-service levels of people with the vertebral column and spinal cord injuries.In general, it can be stated that in all the groups of the examined people, regardless of the level of the injury, the indicators that was improved the most were those that improved the possession of ones own body in space that is, all types of transitions, movements and displacements.

The level of intensity of the exercises on the ARC and their construction is such that it is possible in the shortest possible time to master the necessary techniques in everyday life and develop the necessary skills, learning from a personal example of instructors who use wheelchairs themselves.The improvement of self-service indicators will allow people with the cervical spine, thoracic spine, lumbar spine and spinal cord injury to be more independent.This program will allow people with the vertebral column and spinal cord injuries to gain significant practical experience for the further improvement of their abilities at home.The obtained results enables to confirm the efficiency and effectiveness of programs of active rehabilitation camps.We believe that the program of active rehabilitation camps should be an integral part of the complex rehabilitation process for patients with the vertebral column and spinal cord injuries in Ukraine.

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CONSTRUCTION OF BASE MESOCYCLES OF RUNNERS AT MIDDLE- DISTANCE

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Abstracts

Topicality. The issue of improving the training process of athletes is important at different stages of preparation. Therefore, the optimal construction of the training process of athletes, taking into account their functional state, becomes of increasing importance. ***The Purpose of the Study.*** To substantiate the structure and content of basic mesocycles of men who specialize in running at 800 m and 1500 m, based on their functional capabilities and special ability to work. ***Methods of Research.*** The following methods were used to achieve this goal: observation, pedagogical experiment, medical and biological methods (determination of heart rate (HR) and blood lactate) and methods of mathematical statistics. The survey was attended by 10 volunteer men who specialize in middle-distance running, at the age of 17-24, who qualified as candidates for the master of sports, I and II grades. ***Results.*** It is revealed that athletes who specialize in running at 800 m and 1500 m have the highest results of running the test with 4x400 m repeated loads in the third microcycle of the base mesocycle, accompanied by the optimal functional state of the cardiovascular system and energy supply of training work. In the fourth microcycle, the results of the test and the intensity of adaptive mechanisms of the body of the athletes were reduced to the exercise load, indicating an onset of fatigue. ***Conclusions.*** The results of the relationship between the level of manifestation of the functional capabilities of athletes and the performance of specific loads during the base mesocycle became the methodological basis for the development of their sports training programs. According to the positive adaptation to training loads in men, the construction of the mesocycle remains traditional: three shock microcycles and restorative. Implementation of the proposed programs of basic mesocycles in the training process of athletes significantly improved the functionality, special performance and results of the competition.

Key words: running at 800 and 1500 m, construction of the training process, adaptation, functional state, lactate, men.

Ольга Рода, Світлана Калитка, Нінель Мацкевич. Побудова базових мезоциклів бігунів на середні дистанції. ***Актуальність теми дослідження.*** Питання вдосконалення тренувального процесу спортсменів важливе на різних етапах підготовки. Тому дедалі більшого значення набуває оптимальна побудова тренувального процесу спортсменів з урахуванням їх функціонального стану. ***Мета статті*** – обґрунтувати структуру й зміст базових мезоциклів чоловіків, які спеціалізуються з бігу на 800 та 1500 м, на основі вивчення їхніх функціональних можливостей і спеціальної працездатності. ***Методи.*** Для досягнення поставленої мети застосовували такі методи, як спостереження, педагогічний експеримент, медико-біологічні методи (визначення частоти серцевих скорочень (ЧСС) і лактату крові) та методи математичної статистики. В обстеженні взяли участь 10 чоловіків- добровольців, які спеціалізуються в бігу на середні дистанції, віком 17–24 роки, які мали кваліфікацію I та II розрядів і кандидата в майстри спорту. ***Результати.*** Виявлено, що в спортсменів, які спеціалізуються з бігу на 800 та 1500 м, найвищі результати пробігання тесту з повторними навантаженнями 4х400 м у третьому мікроциклі базового мезоциклу, що супроводжується оптимальним функціональним станом серцево-судинної системи та енергозабезпеченням тренувальної роботи. У четвертому мікроциклі виявлено зниження результатів тесту й напруження адаптаційних механізмів організму спортсменів до виконаного тренувального навантаження, що свідчить про настання втоми. ***Висновки.*** Результати взаємозв'язку рівня прояву функціональних можливостей спортсменів та ефективності виконання специфічних навантажень протягом базового мезоциклу стали методологічною основою розробки програм їх спортивної підготовки.

Відповідно до позитивної адаптації до тренувальних навантажень у чоловіків побудова мезоциклу залишається традиційною: три ударні мікроцикли та відновлювальний. Упровадження запропонованих програм базових мезоциклів у тренувальний процес спортсменів значно покращило функціональні можливості, спеціальну працездатність і результати змагань.

Ключові слова: біг на 800 м та 1500 м, побудова тренувального процесу, адаптація, функціональний стан, лактат, чоловіки.

Ольга Рода, Светлана Калитка, Нинель Мацкевич. Построение базовых мезоциклов бегунов на средние дистанции. ***Актуальность темы исследования.*** Вопросы совершенствования тренировочного процесса спортсменов являются важными на различных этапах подготовки. Поэтому все большее значение приобретает оптимальное построение тренировочного процесса спортсменов с учетом их функционального состояния. ***Цель статьи*** – обосновать структуру и содержание базовых мезоциклов мужчин, специализирующихся в беге на 800 м и 1500 м, на основе изучения их функциональных возможностей и специальной работоспособности. ***Методы.*** Для решения поставленной цели применяли такие методы, как наблюдение, педагогический эксперимент, медико-биологические методы (определение частоты сердечных сокращений (ЧСС) и лактата крови) и методы математической статистики. В обследовании приняли участие 10 мужчин-добровольцев, специализирующихся в беге на средние дистанции в возрасте 17–24 года, которые имели квалификацию I и II разрядов и кандидата в мастера спорта. ***Результаты.*** Выявлено, что у спортсменов, специализирующихся в беге на 800 и 1500 м, высокие результаты пробегания теста с повторными нагрузками 4х400 м в третьем микроцикле базового мезоцикла, что сопровождается оптимальным функциональным состоянием сердечно-сосудистой системы и энергообеспечением тренировочной работы. В четвертом микроцикле выявлено снижение результатов теста и напряжения адаптационных механизмов организма спортсменов к выполненного тренировочной нагрузки, что свидетельствует о наступлении усталости. ***Выводы.*** Результаты взаимосвязи уровня проявления функциональных возможностей спортсменов и эффективности выполнения специфических нагрузок в течение базового мезоцикла стали методологической основой разработки программ их спортивной подготовки. Согласно положительной адаптации к тренировочным нагрузкам у мужчин построение мезоцикла остается традиционным: три ударных микроцикла и восстановительный. Внедрение предложенных программ базовых мезоциклов в тренировочный процесс спортсменов значительно улучшило функциональные возможности, специальную работоспособность и результаты соревнований.

Ключевые слова: бег на 800 и 1500 м, построение тренировочного процесса, адаптация, функциональное состояние, лактат, мужчины.

Formulation of a research problem and its significance. When we analyze the level of achievements of the athletes and trainers, specializing in running at middle distance, it becomes obvious that there is a need for a constant search for the latest forms of sports training [1; 3; 4; 8].It becomes clear that it is impossible to infinitely increase the load, and therefore it is necessary to search for new methods for improving the sports training of stayers [2; 5; 6].

It is indicated in the scientific literature [2; 5] that the structure of the training process is based on the objective laws of the formation of sporting skills.This is due to factors that determine the effectiveness of competitive activities and the optimal structure of preparedness, pecularities of adaptation reactions and individual characteristics of the athlete [5; 7; 8].

According to V.P. Platonov [5], the structure of the training process can be characterized by the nature of interconnection and correlation between different aspects of sports training (general and special physical training, technical and psychological training); correlation between parameters of training and competitive load (volume and intensity of load, rate of competitive activity in the total work load); the sequence and interconnection of different parts of the training process [6; 8].

Analysis of the research into this problem. Nowadays much attention is given to the proportion and effectiveness of the volume of general and special physical training, both at each stage and in the long-term plan for training conducting[1; 2; 5].If the load performed by the athlete corresponds to his physical, psychological and morphological characteristics the effectiveness of the training will increase.

The investigation of the issues concerning the improvment of the training process in the system of long-term training in various sports and track-and-field disciplines has been carried out in a large number of studies[1 ; 2 ; 3 ; 4].No papers, that highlight the questions of the functional state, the responses of adaptative mechanisms to specific loads, the preparedness and the construction of basic mesocycles for men who specialize in running on medium distances, were found. These issues form the topicality of our research.

The goal and the specific tasks of the article. The aim of the study is to substantiate the structure and content of basic mesocycles for men specializing in running at 800 m and 1500 m, on the ground of their functional capabilities and special productivity.

Material and methods of research. A set of methods was used to solve the tasks: analysis and generalization of scientific and methodical literature on the training of athletes; pedagogical observation; pedagogical experiment; medical and biological research methods; mathematical statistics methods.

Having taken into account the issues of scientific substantiation of the process of sports training planning of athletes specializing in running on medium distances we have conducted a study in the natural conditions of the planned training process during two mesocycles.

The experiment involved 10 male volunteers (2 - CMS, 2 - I grade, 6 - II grade), aged 17-24, specializing in running on medium distances. The state of health of all athletes was within the the physiological norm.

The performance of athletes at specific loads with simultaneous registration of the autonomic body systems functions was studied in the pedagogical experiment (re-challenge test). A test involving 4x400m run with a gradual increase in speed for each segment and a 5 minutes rest interval, performed in each microcycle was carried out to assess the level of anaerobic and aerobic capabilities of athletes.

The function of the cardiovascular system was assesed by heart rate (beats per minute) both in an idle state, after the exercise and during the recovery period. Monitoring of the heart rate was performed with the help of the test machine Polar S610i (Finland).

Biochemical studies (determination of the lactate and hemoglobin content, standard methods for taking blood samples from the phalanx) were performed by a medical laboratory assistant of the highest qualification category. Lactate content was measured using the BM-Lactate No. 25 test strips with the help of a testing device «Accutrend Plus» (Switzerland) on the third minute after each segment.

The obtained results have been analyzed using commonly used methods of variation statistics with the calculation of average values of individual indicators and standard deviation. Student's t-distribution for bound samples was used for statistical verification of hypotheses about the validity of discrepancies; with a 5% significance level taken as a basis during the verification.

Statement regarding the basic material of the research and the justification of the results obtained. The special working capacity and adaptive reactions of the athletes' body in the base mesocycle of the planned training process, containing five shock microcycle with significant loads that are identical in structure for all athletes, were investigated to determine the optimal construction of training loads in the mesocycles of men and women specializing in running on medium distances,.

Training devices, which mainly develop speed (0.6 km), anaerobic and aerobic (1.2-1.6 km) capabilities were applied on the first, third and fifth days of the microcycle. Activities for developing endurance and aerobic capacity (6-10 km), speed (0.6 km) and strength were used during the second, fourth and sixth days. The seventh day was reserved for rest, recovery and assessment of the functional state and working capacity. Consequently, the athletes performed the training load in the anaerobic zones - 3.6 km, mixed aerobic and anaerobic ones - 3.6-4.8 km, aerobic ones - 18-30 km per microcycle, which remained unchanged in volume, due to the to the intensity corresponding to their functional capabilities. Such structure of the mesocycle was chosen to investigate the formation of the delayed training effect.

A test with repeated loads - 4x400 m after 5 minutes of rest, which is often used in the training process of medium-distance runners, was applied to determine the level of their special working capacity.It was required that athletes run each subsequent segment at a higher speed.

No apparent difference during the mesocycles of the CMS and 1st grade athletes covering the segments was found (Table 1). The best result of covering the fourth segment was shown in the third microcycle and almost equal ones - in the first, second, fourth and fifth microcylcles. Somewhat lower results of covering the segments were fixed in the fourth microcycle.

The results of covering the given distance by athletes of the 2nd grade improved from the first to the fourth segment in each microcycle.Hence, the best results were found in the first, third and fifth microcycles and somewhat lower results were fixed in the fourth microcycle and probably ($p < 0,05$) lower - in the second microcycle, as compared to the third one.

Table 1

Dynamics of special working capacity of athletes, specializing in running on medium distances, during the mesocycle

Segment (4x400m)	Microcycle	Result, *s*				
		I	II	III	IV	V
1	CMS, 1st grade	66,28±5,53	67,62±5,83	67,54±5,46	67,84±6,30	67,52±7,36
2		64,20±4,23	64,10±4,51	64,54±3,88	64,96±4,44	65,82±4,57
3		63,20±1,69	63,92±3,75	65,40±5,94	64,18±3,11	63,81±3,21
4		60,56±2,71	60,42±2,77	59,82±3,41	60,68±2,96	60,46±2,89
1	2nd grade	73,68±8,21	74,74±8,10*	72,98±8,01	73,80±8,25	73,60±7,65
2		71,76±4,53	72,64±4,17*	71,16±4,59	71,54±4,49	71,32±4,39
3		69,88±2,23	70,50±2,11	69,70±1,30	70,02±2,02	69,38±1,66
4		68,00±2,32	67,82±2,35	67,82±3,09	68,26±3,17	67,16±3,06

Note. * – (p<0,05) – apparent result changes, as compared with the third microcycle.

During the covering of segments, CMS athletes and 1st category atheletes had the highest values of average heart rate in the third, fourth and fifth microcycles, somewhat lower - in the first and the second ones (Fig. 1).

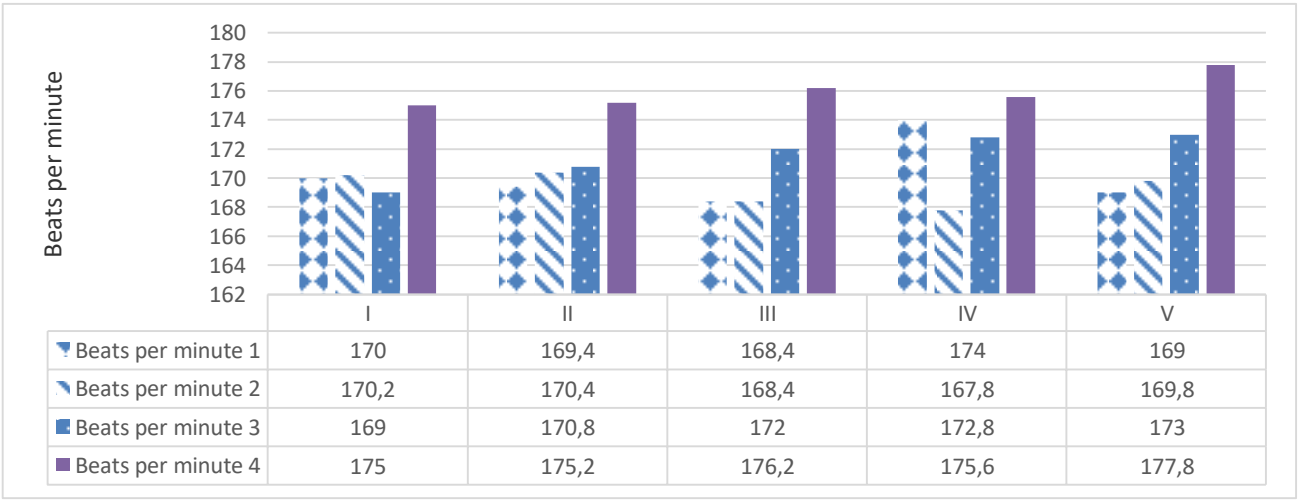
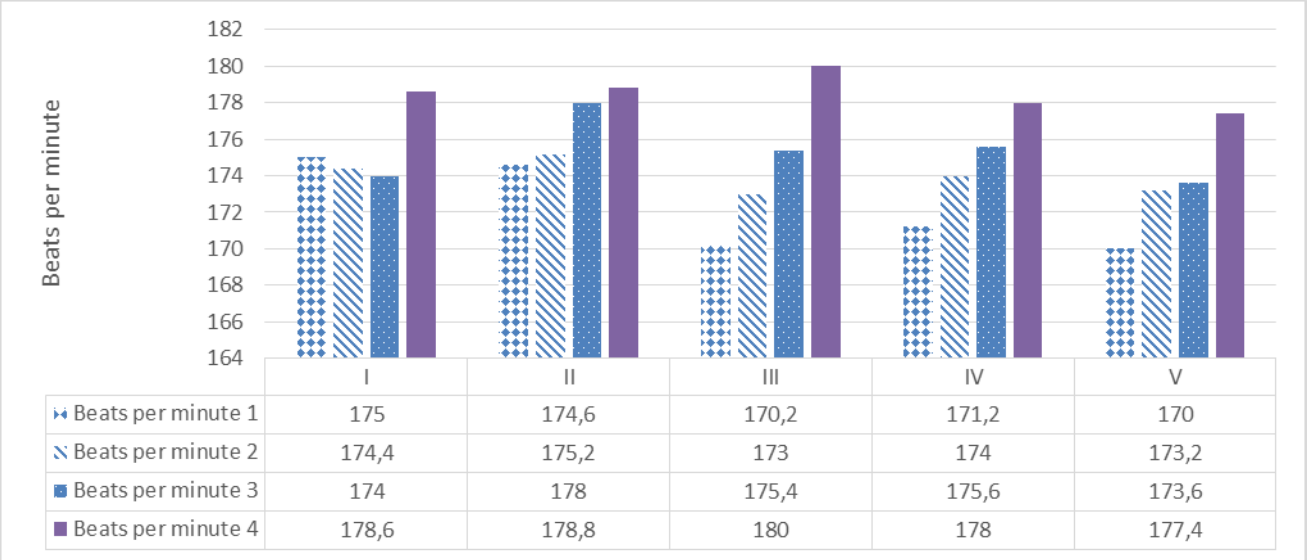


Fig. 1. *Dynamics of average heart rate indicators in different microcycles of the training process of men, specializing in running on medium distances (CMS, 1st grade)*

Athletes of the 2nd grade (fig. 2) had the highest values of the mean heart rate in the first and second microcycles, whereas it decreased significantly in the fourth and fifth microcycles. A decrease in heart rate in the third microcycle during the first three segments and an increase during the fourth segment were also indicated.

The concentration of lactate in the blood 3 minutes after covering each test segment was determined to evaluate the intensity of the load and the contribution of anaerobic energy supply to the completed work. Thus, the highest concentration of lactate in the blood of CMS athletes and 1st grade athletes covering the first segment was recorded in the first , third, fourth microcycle and slightly lower concentration - in the second and fifth microcycles (fig. 3).



	I	II	III	IV	V
Beats per minute 1	175	174,6	170,2	171,2	170
Beats per minute 2	174,4	175,2	173	174	173,2
Beats per minute 3	174	178	175,4	175,6	173,6
Beats per minute 4	178,6	178,8	180	178	177,4

Fig. 2. *Dynamics of average heart rate indicators in different microcycles of the training process of men, specializing in running on medium distances (2nd rate)*

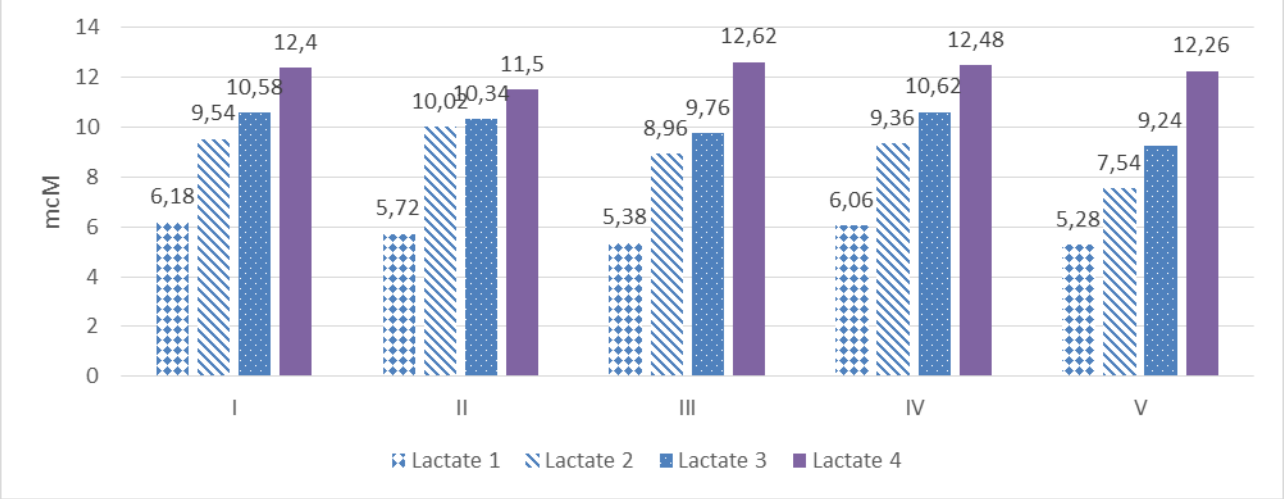


Fig. 3. *Dynamics of lactate concentration in the blood of men, specializing in running on medium distances (CMS, 1st grade)*

2nd grade athletes had the highest lactate concentration after covering the segments in the first and third microcycles and somewhat lower - in the second, fourth and fifth microcycles (Fig. 4).

The hemoglobin content in the blood of CMS and 1st grade athletes prior to the training from the first to the third microcycles has remained at the level of 154,80 ± 11,99 g / l -1 ; 154.60 ± 9.40 g / l -1 ; 154.20 ± 6.42 g ·/l -1 respectively, the lower level was fixed in the fourth and fifth microcycles (fig. 5).It should be noted that the men's hemoglobin content did not significantly increase after training. The highest values were fixed in the first and the second microcycles. Somewhat lower levels were fixed in the third, fourth and fifth microcycles.

For athletes of the 2nd grade, the hemoglobin content in the blood prior to the training was high in the first, second and third microcycles and somewhat lower - in the fourth and fifth ones (fig. 6).

After performing the training load, hemoglobin gain was noted in all microcircles: in the first - 157,00 ± 17,03 g / l -1 , the second - 158,40 ± 16,32 g / l -1 , in the third - 156,80 ±13, 41 g / l -1 , the fourth - 157,20 ± 13,03 g / l -1 , the fifth - 158,20 ± 10,94 g / l -1.

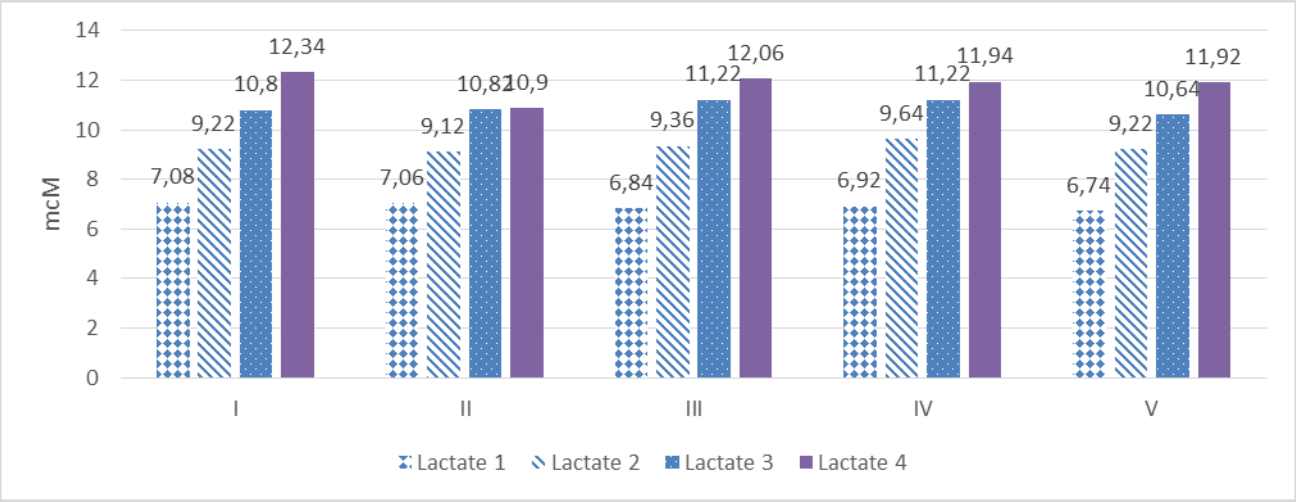


Fig. 4. *Dynamics of lactate concentration in the blood of men, specializing in running on medium distances (CMS, 2st grade)*

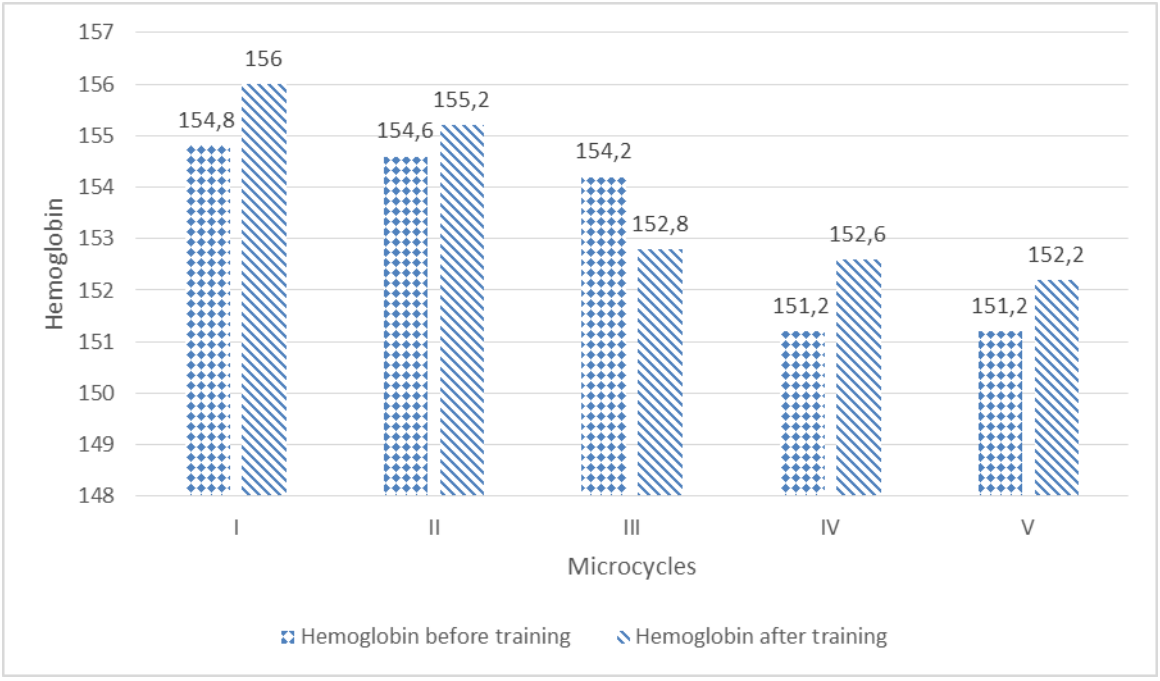


Fig. 5. *Dynamics of hemoglobin content in the blood of men, specializing in running on medium distances (CMS, 1st grade)*

The conducted study of the working capacity and functional state of athletes' body during the mesocycle was the methodological basis for the construction of basic mesocycles for men, specializing in running on medium distances. The amount of training load of different orientations during the shock and restorative microcycles of the training process of men has been determined (tab. 2).

Such training load, which increases in volume and intensity from one microcycle to another, contributes to the progressive increase of fatigue, the maximization of the capabilities of the functional systems mobilization of the body of the athlete. However, we have used restorative microcycles, which enabled us to restore the functionality and efficiency of the athletes, for the effective adaptation processes, fatigue prevention and overexhaustion during the training process (fig. 7).

Consequently, the results of the functional state change for athletes specializing in running on medium distances, during the mesocycle allow to plan the application of large and significant physical loads, improve the efficiency of the training process and functional capabilities.

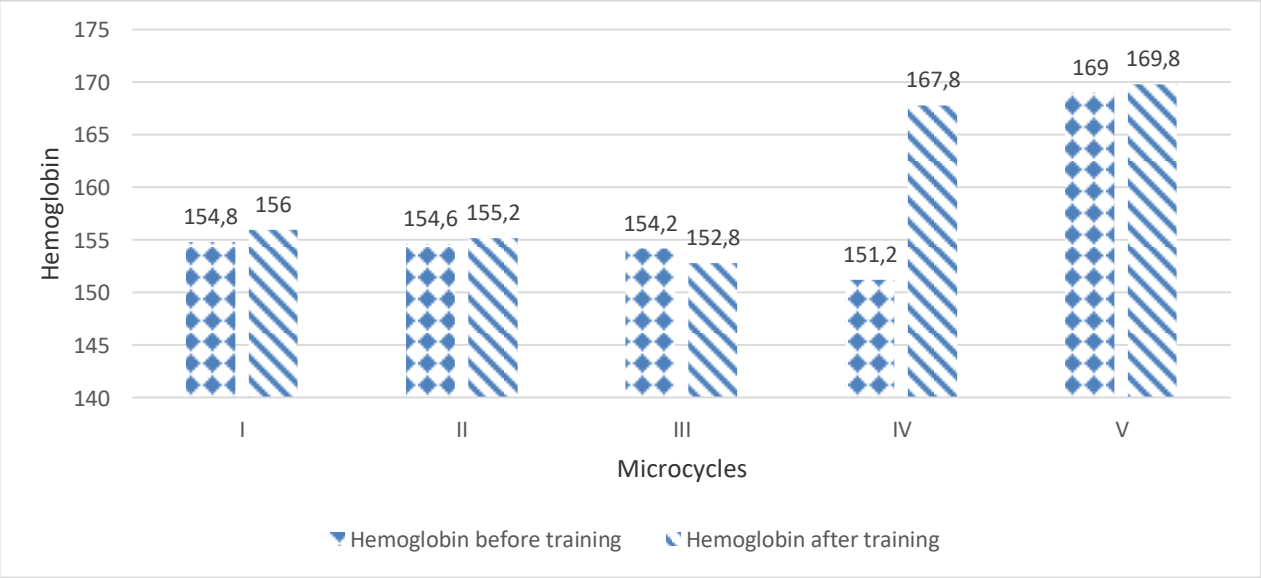


Fig. 6. *Dynamics of hemoglobin content in the blood of men, specializing in running on medium distances (CMS, 2nd grade).*

Discussion. It was found that the working capacity and the functional state of men were increasing during the first three mesocycles and decreasing in the fourth and growing again in the fifth microcycle. The increase in the performance during the first three and fifth microcycles is due to the improved functional state of the cardiorespiratory system, anaerobic and aerobic potential growth, as evidenced by the indicators of lactate and hemoglobin .This is a consequence of the positive influence on the adaptive processes of training loads during these microcycles.

The decrease in the performance of all athletes during the fourth microcycle and of the 1st and 2nd grades athletes during the first three segments of the second microcycle may be due to the appearance of fatigue, failure to recover after high loads in previous microcycles, leading to a re-adaptation of the functional systems of the body.This is confirmed by the deterioration of the functional state of the cardiorespiratory system, the reduction of anaerobic and aerobic capabilities due to a decrease of the hemoglobin content in the blood, which reduces the oxygen delivery volume to the muscles, utilization of lactate and restoration of the heart rate. Hemoglobin content in the blood of CMS athletes was higher in the first, second and third microcycles and somewhat decreased in the fourth and fifth microcycles, which may be the result of not complete recovery after high loads in the first three microcycles.

The amount of training work reaches its maximum during the base mesocycles. An important feature of basic mesocycles is that weekly microcycles with a high load can last 3 weeks, and for athletes of high qualification - 4-5 weeks.The inclusion of a final restorative microcycle with a small total load, which contributes to the complete restoration and formation of the positive training effect and ensures the readiness of the body to implement the program of the next mesocycle is re required for large total load of mesocycles of this type.

Table 2

The structure and the content of the base mesocycle of athletes, specializing in middle-distances

Microcycle type	The volume of training load *(km)*				
	Aerobic restorative zone	Aerobic developing zone	Aerobic-anaerobic zone	Anaerobic zone	Creatine-phosphate zone
1st shock	11	24	-	1,4	2,8
2nd shock	10	30	4	4	1,8
3rd shock	11	36,5	5	4,5	1,8
4th restorative	41	-	-	1,8	1,8
Total of 192,4 km	73	90,5	9	11,7	8,2

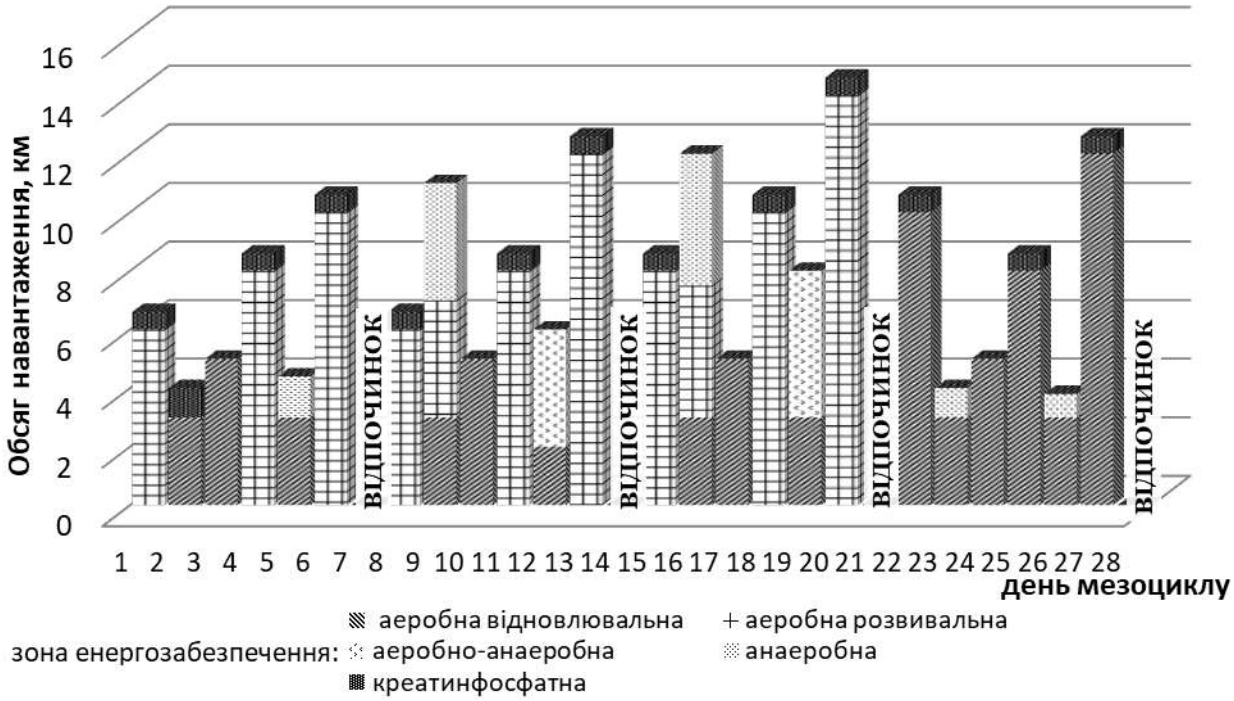


Fig. 7. *Construction of the base mesocycle of the training process of athletes specializing in running on medium distances.*

Consequently, changes in the functional capabilities and, hence, athletes' work capacity have become the methodological basis for building base mesocycles for athletes, specializing in running on medium distances. Our experiments confirm the data on the construction of base mesocycles for the training of athletes, gathered by V.M. Platonov [5]. The implementation of the proposed base mesocycles into the athletes training process has improved the outcome of the competitions.

Conclusions and prospects for further research. According to the analysis results it was determined that the construction of the training process of athletes, specializing in running on medium distances, is not properly reflected in the theory and method of sports training regarding their functional capabilities.A small number of works, mainly providing the analysis of physical, technical and tactical training, touches only upon teenagers' training.

It was determined that the CMS athletes and the 1st grade athletes showed the best result of 4x400m training in the third and fifth microcycles, and somewhat lower results during the first and second ones, and the lowest during the fourth one; athletes of the second grade had the best results in the third, first, second, fourth microcycles, and grew even more in the fifth microcycle.

Adaptive reactions to intense muscular activity of the body of athletes, specializing in running on medium distances, aimed at manifestation of the anaerobic endurance, are characterized by an optimal functional state in the first, second, third and fifth microcycles and by its minor decrease in the fourth microcycle, in particular: the functional value of the conducted work did not have significant changes during the mesocycle, meanwhile, the mean heart rate increases during the first three microcycles according to the results of 4x400m. training test runs. There was a slight decrease in the mean heart rate during the fourth microcycle, which was associated with a decrease in the speed of the training run, and a slight increase in mean heart rate of the CMS and 1st grade athletes in the fifth microcycle, and its decrease for athletes of the second grade at the highest rate of covering the segments; the content of hemoglobin, glucose and blood lactate did not significantly differ during the mesocycle, indicating that the energy supply of training work had remained at a relatively uniform level.

The results of the correlation between the level of functional capabilities manifestation of athletes and the handling of specific loads of the mesocycle have become the methodological basis for developing programs for training and competitive activities in microcycles and mesocycles of sports training.The

construction of the mesocycle for men remains the traditional - three shock microcecles and a restorative one, in accordance with the positive adaptation to the training load. The introduction of the proposed base mesocycles into the training process of male stayers has significantly improved the functional capabilities, the special working capacity and the competition results.

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ANALYSIS OF THE STATE OF HIGHLY SKILLED FOOTBALL PLAYERS' MUSCULOSKELETAL SYSTEM AT THE BEGINNING OF THE 2nd PREPARATORY PERIOD OF THE ANNUAL MACROCYCLE

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Abstracts

Background. Nowadays the development of adequate means of effective rehabilitation of athletes' organism after training and competitive load is becoming more and more an urgent task of sports training. It is well known that during training and competitive activity they can reach critical values. Thus, the optimization of the system of complex athletes' recovery is the basis for maintaining a high level of working capacity and preventing the negative consequences of overstrain during training and competitive loads. ***Objective.*** This research aims to determine the functional state of the musculoskeletal system (MSS) of highly qualified football players at the beginning of the 2nd preparatory period of the annual training cycle. ***Methods.*** Analysis of scientific and methodological literature, flexibility testing, stabilometry, methods of mathematical statistics. ***Results.*** It is established that at the beginning of the 2nd preparatory period of an annual preparation cycle the flexibility indicators' level of examined athletes were characterized as «low» or «below the average». It is shown that in this period of the annual macrocycle the high qualified football players' level of static ability to support corresponded to the value «average» and «below average», as well as joint mobility indicators. The facts of vestibular and proprioceptive disturbances were revealed. Such disturbances have a significant impact on the equilibrium function. ***Conclusions.*** According to the results of motor tests and goniometry, the low level of the functional state of the football players' MSS after the winter vacation indicates the inelasticity or shortening (spasm) of the muscles and ligamentous apparatus, which is one of the signs of their chronic overstrain. The previously obtained experimental data on the reduction of stabilometric parameters which characterize the stability of the vertical posture, instability of the joints of the lower extremities, the presence of vestibular and proprioceptive disturbances were confirmed by current research. Also our research expanded the views about preventive measures and leveling the negative effects of overload of highly qualified football players' MSS. It is recommended to include corrective and preventive exercises (myofascial relaxation(MFR) methods) in the preparatory and final parts of the training sessions. This technique will help to normalize the functional state of the MSS and to reduce the risk of injury.

Key words: football players, functional state, musculoskeletal system, flexibility, quality level.

Світлана Кокарева, Борис Кокарев, Едуард Дорошенко. Аналіз стану опорно-рухового апарату висококваліфікованих футболістів на початку 2-го підготовчого періоду річного макроциклу. ***Актуальність.*** Усе більш актуальним завданням спортивної підготовки сьогодення стає розробка адекватних засобів ефективного відновлення працездатності організму спортсменів після тренувальних і змагальних навантажень. Загальновідомо, що під час тренувань і змагальної діяльності вони можуть досягати критичних величин. Отже, оптимізація системи комплексного відновлення спортсменів є основою для збереження високого рівня працездатності й запобігання негативним наслідкам перенапруження під час тренувальних і змагальних навантажень. ***Мета дослідження*** – визначення функціонального стану опорно-рухового апарату (ОРА) висококваліфікованих футболістів на початку 2-го підготовчого періоду річного циклу підготовки. ***Методи дослідження*** – аналіз науково-методичної літератури, тестування гнучкості, стабілометрія, методи математичної статистики. ***Результати роботи.*** Установлено, що на початку 2-го підготовчого періоду річного циклу підготовки піддослідні спортсмени характеризувалися «низьким» або «нижчим від середнього» рівнем показників гнучкості. Показано, що у футболістів високої кваліфікації рівень статичної опороспроможності в цьому періоді річного макроциклу відповідав значенням «середнє» та «нижче від середнього», так само, як і показники суглобової рухливості. Виявлено факти вестибулярних і пропріоцептивних порушень, які суттєво впливають на функцію рівноваги. ***Висновки.*** Згідно з результатами рухових тестів та гоніометрії низький рівень функціонального стану ОРА футболістів після виходу із зимової відпустки свідчать про нееластичність або скороченість (спазмування) м'язів і зв'язкового апарату, що є однією з ознак їх хронічного перенапруження. Чинним дослідженням підтверджено раніше отримані експериментальні дані про зниження стабілометричних показників, що характеризують стабільність вертикальної пози, нестабільність суглобів нижніх кінцівок,

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наявність вестибулярних і пропріоцептивних порушень; розширено уявлення про заходи попередження та нівелювання негативних наслідків перевантаження ОРА висококваліфікованих футболістів. Рекомендовано включати до підготовчої й завершальної частин навчально-тренувальних занять коригувальні та профілактичні вправи за наявними методиками міофасциального розслаблення (МФР), які сприятимуть нормалізації функціонального стану ОРА й зниженню ризику травматизму.

Ключові слова: футболісти, функціональний стан, опорно-руховий апарат, гнучкість, якісний рівень.

Светлана Кокарева, Борис Кокарев, Эдуард Дорошенко. Анализ состояния опорно-двигательного аппарата высококвалифицированных футболистов в начале 2-го подготовительного периода годичного макроцикла. ***Актуальность.*** Все более актуальной задачей спортивной подготовки в настоящее время становится разработка адекватных средств эффективного восстановления работоспособности организма спортсменов после тренировочных и соревновательных нагрузок. Общеизвестно, что во время тренировок и соревновательной деятельности они могут достигать критических величин. Таким образом, оптимизация системы комплексного восстановления спортсменов является основой для сохранения высокого уровня работоспособности и предотвращения негативных последствий перенапряжения во время тренировочных и соревновательных нагрузок. ***Цель исследования*** – определение функционального состояния опорно-двигательного аппарата (ОДА) высококвалифицированных футболистов в начале 2-го подготовительного периода годичного цикла подготовки. ***Методы исследования.*** Анализ научно-методической литературы, тестирование гибкости, стабилометрия, методы математической статистики. ***Результаты работы.*** Установлено, что в начале 2-го подготовительного периода годичного цикла подготовки обследуемые спортсмены характеризовались «низким» или «ниже среднего» уровнем показателей гибкости. Показано, что у футболистов высокой квалификации уровень статической опороспособности в этом периоде годичного макроцикла соответствовал значению «среднее» и «ниже среднего», также как и показатели суставной гибкости. Выявлены факты вестибулярных и проприоцептивных нарушений, которые существенно влияют на функцию равновесия. ***Выводы.*** Согласно результатам двигательных тестов и гониометрии низкий уровень функционального состояния ОДА футболистов после выхода из зимнего отпуска свидетельствуют о неэластичности или укороченности (спазмировании) мышц и связочного аппарата, что является одним из признаков их хронического перенапряжения. Настоящим исследованием подтверждаются ранее полученные экспериментальные данные о снижении стабилометрических показателей, характеризующих стабильность вертикальной позы, нестабильность суставов нижних конечностей, наличие вестибулярных и проприоцептивных нарушений, расширены представления о мерах предупреждения и нивелирования негативных последствий перегрузки ОДА высококвалифицированных футболистов. Рекомендуется включать в подготовительную и заключительную части учебно-тренировочных занятий корректирующие и профилактические упражнения по существующим методикам миофасциального расслабления (МФР), которые будут способствовать нормализации функционального состояния ОДА и снижению риска травматизма.

Ключевые слова: футболисты, функциональное состояние, опорно-двигательный аппарат, гибкость, качественный уровень.

Introduction. Many researches related to modern issues of athletes' functional preparation show that sport of the highest achievements is characterized by sharp growth of volumes and intensity of training loads, high psycho-emotional intensity of training and competitive processes. This fact makes high demands on the organism of athletes, is also accompanied by significant functional changes, decreased working capacity and indicates the onset of obvious fatigue. In many cases one can see even the disruption of adaptive mechanisms [1; 4; 5].

The development of adequate means of effective recovery of the organism after training and competitive loads, which often reach critical values during training and competitive activity, is becoming an increasingly important task of sports training today. Optimization of the complex recovery system, which is aimed to improve the functional state of athletes, is the basis for maintaining a high level of working capacity and preventing the negative effects of overstrain [2; 8; 10].

The researchers conducted in the world over the last 15 years show an increase of sports micro-injuries as a result of chronic overstrain of the musculoskeletal system, especially in sports games. According to experts' assessments, football is the most traumatic one among these types [4; 6; 11].

A digital computer technology plays a significant role in sports practice of twenty-first century. One of these methods is computer stabilometry. It allows studying the deviations and other characteristics of the testee's common centre of gravity from the support area. This control technique is used to assess the kinetic stability of the organism of athletes and is a modern diagnostic tool for both normal and pathological conditions [3].

The systematic overloads, the nervous system and MSS overstrain lead to disruption of the process of adaptation to physical activity, but increase the probability of injury and the occurrence of related diseases. The latter, in turn, occupy one of the leading places among the pathological conditions in athletes of various sports' types and specializations, permanently depriving them of the opportunity to fully train and to participate in competitions. It is known from previous researches that the quality of "flexibility" depends on the functional state of the MSS. The flexibility indicators in the conditions of the MSS overstrain can significantly decrease; as a result this phenomenon leads to the muscle imbalance development [4; 5; 7].

In the case of team game sports, the control over the functional state of the MSS and timely prevention of overstrain allow introducing adjustments to the training process on time, as each athlete individually and the sports team as a whole. Thus, there is a real possibility to prevent the occurrence of more serious injuries which can permanently incapacitate athletes.

The aim of the research. The aim of this research was to conduct an ascertaining experiment on the functional state of the musculoskeletal system designation of highly qualified football players at the beginning of the 2nd preparatory period of the annual training cycle.

Materials and methods of the research. Evaluation of the functional state of the MSS was carried out by the physical abilities testing associated with the manifestation of joint flexibility, goniometry and stabilometry. In this research, movability tests were used to assess the mobility of the joints of the lower extremities and spine. A number of simple tests such as: bending forward from a standing position, the gymnastic bridge, the side and front (the best of 2 possible) splits, the "Tilting to the right (left) from a sitting position, legs apart" test were selected. Evaluation of stabilometric parameters was carried out by the following indicators: a total length of the path stabilometry (L stato-centigramme, mm), stato-centigramme (s, mm^2). For each of the considered parameters, the level of its development was determined according to the average group values with the determination of the arithmetic index and the arithmetic mean error ($x \pm S$). Due to the goniometry the mobility of the joints in angular units (degrees) was measured. The research was conducted on the basis of football club FC "Zaria" (Lugansk), Zaporizhzhia National University and municipal institution "Regional Medical and Sports Clinic" of Zaporizhzhya Regional Council. It was attended by 22 football players of the first team aged 19-32 years old, who had complaints on pain in the MSS, decreased working capacity and general fatigue.

The results of the research. As a result of the research of the flexibility level of the testees, it became obvious that most of the indicators have a level of "below average" ("Bridge from the initial position lying on the back, cm"; "Full split, cm"; "Split on the left (right) leg, cm") or "average" ("Tilt forward from the standing position, cm"; "Tilt to the right (left) from the sitting legs apart, cm") (See Table. 1).

Table 1

Indicators of stabilometry and flexibility tests of highly qualified football players at the beginning of the 2st preparatory period of the annual macrocycle ($\bar{X} \pm S$)

The studied parameters	Result	Level of development
Standing forward bend, cm	5,93±2,05	average
Bridge from the starting position lying on the back, cm	69,44±3,41	below average
Full split, cm	59,43±1,14	below average
Split on the left (right) leg, cm	45,50±1,50	below average
The tilt to the right (left) from a sitting position legs apart, cm	6,35±0,11	average
The length of the stato-centigramme (L) mm	523,33±13,31	below average
The square of the stato-centigramme (S), mm^2	407,27±43,81	below average

According to the results of stabilometry which were carried out immediately after the football players of FC "Zaria" (Lugansk) returned from winter vacations (which corresponded to the beginning of the 2nd preparatory period), the indicators of static ability to support of almost 50% of the studied football players were on level of "below average".

And with it, in almost 60% of cases the indicators of stability of the vertical posture were "below average". This indicates a deterioration of the equilibrium function. The shift of the reverse projection of the general center of mass (GMC) in the frontal and sagittal planes was lower than the "average level" in more than 65% of the examined football players. More than 34% of these sportsmen have the CMR projection in the sagittal plane shifted forward, and 12% – shifted back. The displacement of the CMR projection in the frontal plane and to the right (left) was also observed in almost 12% of the testees.

This study revealed that the area of the stato-centigramme in almost 64% of examined football players corresponded to the quality levels "average" and "below average". The average index of this indicator was 407.27±43.81 mm^2, and the average index of the parameter "length of the stato-kinesiogram" slightly exceeded the indicators, responding to the "average" level of the indicator in less than 36% of football players (523.33±13.31 mm).

During the analysis of the data of lower extremities joints' goniometry of the testees one found out that the indicators of joint mobility in football players were also on the level "average" and "below average" (See Table. 2).

Table 2

Indicators of goniometry of highly qualified football players at the beginning of the 2st preparatory period of the annual macrocycle, ($\overline{X}$ ± S, degrees)

Joint		Flexion		Extension		Abduction	
Coxofemoral	Right	115,05±2,55	a	-	-	44,43±1,17	a
	Leftist	114,63±2,01	a	-	-	43,68±0,92	b/a
Knee	Right	126,73±1,77	a	-	-	-	-
	Leftist	127,80±1,27	a	-	-	-	-
Talocrural	Right	33,53±1,83	b/a	7,14±0,84	a	-	-
	Leftist	34,86±1,70	b/a	8,28±0,89	a	-	-

Notes: a – «average»; b/a – «below average».

Discussion. In our point of view, such low results of flexibility parameters of examined sportsmen can be explained as follows. First, it is well known that flexibility is a physical quality of antagonistic orientation in relation to strength ones. Secondly, highly qualified football players have a very high level of development of strength abilities, which has been repeatedly proved by many previous scientific studies [1, 3, 7, 11]. In addition, they proved that the flexibility determines the functional state of the MSS.

In our opinion, the low results of testing of all abovementioned indicators of joint flexibility, goniometry and stabilometry are due to the fact that the football players returned to training work after a very long winter vacation after the end of the 1st competition period. This is the first round of the Football Championship of the Ukrainian Premier League. Also peculiarities of the calendar planning of the upcoming competition period have a great impact on decreasing of studied parameters.

Thus, summarizing the results and comparing them with the data of previous studies, a new strategic direction of work on the development of joint flexibility of highly qualified football players and restoration of their musculoskeletal system state was chosen. That's why, it seems relevant to develop individual components of personal programs and group (team) model of recovery measures using innovative techniques of myofascial relaxation [9], as a means, firstly, of muscle stretching and, secondly, the recovery after high physical activity to prevent injuries of the musculoskeletal system. Such damages can appear due to the lack of elasticity of the myofascial structures of highly qualified football players' organism. It should also be noted that one of the hypotheses of both the current and the next experiments is the idea that the methods of physical training chosen by us and rehabilitation of football players after high muscle loads will allow to bring the studied indicators to a new, higher quality level, to keep the necessary conditions for a long time

during two competitive periods of the annual cycle of training, and thereby contribute to the high final result of competitive activity of athletes.

Conclusions and prospects for further researches. Thus, we consider it is possible to draw the following conclusions:

1. According to the results of mobility tests and goniometry, the low level of the functional state of the MSS indicates the inelasticity or shortening of the muscles and ligamentous apparatus, which, in turn, is one of the signs of chronic overstrain of the MSS and leads to a decrease of working capacity, threatens great physical and mental overload against the background of insufficient recovery and can cause serious injuries and diseases, permanently incapacitate athletes.

2. After returning after winter vacation, before the beginning of the 2nd preparatory period, there was a decrease in stabilometric indicators in general and, in particular, the values of indicators which characterize the stability of the vertical posture. This fact may indicate individual disorders of the MSS, instability of the joints of the lower extremities, the presence of vestibular and pro-perceptive disorders.

3. It is recommended to the football players to include corrective and preventive exercises in the training process in addition to the usual pre-stretching. That will help to normalize the functional state of the MSS and to reduce the risk of injury.

The next stage of our research will be the development of individual components of personal programs and group (team) model of recovery activities using innovative techniques of myofascial relaxation and their place in the structure of the training process of highly qualified football players.

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THE INFLUENCE OF A CONGESTED FIXTURE PERIOD ON PHYSICAL AND TECHNICAL PERFORMANCE DURING MATCHES WORLD CHAMPIONSHIP 2014[1]

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Abstracts

Introduction. The aims of the current study were to identify the influence of playing multiple games with a short recovery on physical and technical activity, which is one of the main determinants of soccer performance. ***Material and methods.*** We have examined the time-motion characteristics of the matches played in the group stage during the World Cup Brazil 2014. Footballers played five consecutive matches separated by 4 days. The examined 62 physical and technical performance profiles were: Central Defenders = 16, External Defenders = 14, Defensive Central Midfielders = 8, Ofensive Central Midfielders = 6, External Midfielders = 11, and Forwards = 7. Four thresholds were used to evaluate distances run in four categories of the following running intensities: 0.0–14.0 km/h (walking and light-intensity running, Light-IR); 14.1–19.0 km/h (moderate-intensity running, MIR); 19.1-23.0 km/h (high-intensity running, HIR) and >23.1 km/h (Sprint). ***Results.*** Five technical variables were examined: shots, passes, successful passes, ball recoveries and clearances. It was shown that physical and technical activities were unaffected during the congested fixture period. There was a lack of statistical difference in the distance covered at different intensities by footballers playing particular positions on the pitch. Significant differences appeared in clearances activity, an element used in defensive game. They concerned only ED, CD and CMD. ***Conclusion.*** It is difficult to analyse performance in matches where recovery time between them is short. There should be carried out further studies that would determine possibilities of footballers to maintain high game performance in consecutive matches with a short recovery time as well as the influence of such periods on the technical activity.

Key words: performance analysis, elite soccer players, time-motion analysis, technical activity fixture congestion.

Анджей Сорока, Олександр Стула, Шимон Млинек. Вплив визначеного періоду навантаження на фізичне та технічне виконання під час чемпіонату світу з футболу 2014 р. ***Вступ.*** Метою дослідження є визначення впливу декількох ігор із коротким відновленням фізичної та технічної активності, що є одним з основних детермінантів футбольної гри. ***Методи та матеріали.*** Ми розглянули часові та рухові характеристики матчів групового етапу під час чемпіонату світу з футболу в Бразилії 2014 р. Футболісти відіграли п'ять послідовних матчів упродовж чотирьох днів. Досліджено 62 фізичні та технічні профілі виконання: центральні захисники = 16, Зовнішні захисники = 14, центральні півзахисники = 8, центральні атакуючі напівзахисники = 6, зовнішні півзахисники = 11 та Форварди = 7. Для оцінки використано чотири рівні наступних чотирьох категорій інтенсивності руху: 0,0–14,0 км/год (ходьба та пробіг легкої інтенсивності, Light-IR); 14,1–19,0 км/год (пробіг середньої інтенсивності, MIR); 19,1-23,0 км / год (висока інтенсивність пробігу, HIR) і> 23,1 км / год (Sprint). ***Результати дослідження.*** Розглянуто п'ять технічних змінних: удари, паси, успішні паси, відбирання м'яча та удари від воріт. Показано, що фізичні та технічні дії не зазнали впливу під час певного періоду навантаження. Відсутня є статистична різниця у відстані між футболістами, із різною інтенсивністю, котрі займають певні позиції на полі. Значні відмінності з'явилися в ударах від воріт, прийомів, що використовуються під час захисту. Вони стосуються тільки ED, CD і CMD. ***Висновки.*** Важко аналізувати ефективність футбольних матчів, коли час відновлення між ними короткий. Потрібно провести подальші дослідження, які б визначали можливості футболістів підтримувати високу продуктивність гри в послідовних матчах із коротким періодом відновлення, а також впливом таких періодів на технічну активність.

Ключові слова: аналіз продуктивності, футбольна еліта, аналіз руху за часом, навантаження визначеної технічної активності.

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Анджей Сорока, Александр Стула, Шимон Млинек. Влияние определенного периода нагрузки на физическое и техническое исполнение во время чемпионата мира по футболу 2014 г. ***Введение***. Целью данного исследования является определение влияния нескольких игр с коротким восстановлением физической и технической активности, что есть одним из основных детерминант футбольной игры. ***Методы и материалы.*** Мы рассмотрели временные и двигательные характеристики матчей группового этапа во время чемпионата мира по футболу в Бразилии в 2014 г. Футболисты сыграли пять последовательных матчей в течение четырех дней. Исследованы 62 физические и технические профили выполнения: центральные защитники = 16; внешние защитники = 14; центральные полузащитники = 8, центральные атакующие полузащитник = 6, внешние полузащитники = 11 и форварды = 7. Для оценки использованы четыре уровня в следующих четырех категориях интенсивности движения: 0,0–14,0 км/ч (ходьба и пробег легкой интенсивности, Light-ИR) 14,1–19,0 км/ч (пробег средней интенсивности, МИR) 19,1–23,0 км/ч (высокая интенсивность пробега, HIR) и> 23,1 км/ч (Sprint). ***Результаты исследования.*** Рассмотрены пять технических переменных: удары, пасы, успешные пасы, отбор мяча и удары от ворот. Показывается, что физические и технические действия не подвергаются воздействию во время определенного периода нагрузки. Отсутствующей есть статистическая разница в расстоянии между футболистами, с разной интенсивностью, которые занимают определенные позиции на поле. Значительные различия появились в ударах от ворот, приемах, используемых при защите. Они касаются только ED, CD и CMD. ***Выводы.*** Трудно анализировать эффективность футбольных матчей, когда время восстановления между ними есть коротким. Необходимо провести дальнейшие исследования, определяющие возможности футболистов поддерживать высокую производительность игры в последовательных матчах с коротким периодом восстановления, а также влиянием таких периодов на техническую активность.

Ключевые слова: анализ производительности, футбольная элита, анализ движения по времени, нагрузки определенной технической активности.

Introduction. Each year the number of matches played by the world elite players increases. Maintaining high activity of players during the season depends heavily on the ability to fast recovery of the organism and very good physical preparation to undertake further efforts [1-2]. Currently, playing two matches in a week or even more in a short period of time without the possibility of full physical recovery has become a norm [3].

There is a potential risk that the periods of match fixture congestion may lead to residual fatigue. The cause of this phenomenon lies in the inability to complete the players' physical recovery between successive matches [4]. In post-match time the players may suffer from muscle soreness resulting from micro-traumas, what in the case of the lack of full recovery may lead to muscle damage [5].

Previous research suggest that this period of successive matches does not induce a high level of fatigue on players [6-8], confirmed by the lack of significant differences in the total distance covered and particular intensities in matches played every few days and without a full recovery between them [9-10].

However, in this study we analyze physical and technical performance in a knockout stage as well as physical and technical capabilities in consecutive matches, where the gap break between them does not allow for a full physical recovery of players. The aims of the current study were to identify match performance physical profiles of players and analyze effects of a prolonged period of fixture congestion on technical activity, which is one of the main determinants of soccer performance.

There was a hypothesis that physical activity expressed as the length of distance covered and technical activity in footballers playing 5 matches with on average 4 days of recovery between them showed no significant differences. It is assumed that the level of physical preparation of the world elite players is at a very high level.

Material and methods. To analyse the effect of repeated games on physical performance, we have examined the time-motion characteristics of the matches played in the group stage during the World Cup Brazil 2014. Footballers played five consecutive matches separated by 4 days: including 3 games in the group stage and 2 in the knockout stage. The players included in the study met two basic criteria: (1) completing at least 75 minutes in four or more matches, and (2) because the physical loading of goalkeepers differs from that of field players, they were not included in the study. Altogether, 62 physical and technical performance profiles were examined (Central Defenders (CD) = 16, External Defenders (ED) = 14, Defensive Central Midfielders (DCM) = 8, Ofensive Central Midfielders (OCM) = 6, External Midfielders (EM) = 11, and Forwards (F) =7). The study conforms to the code of ethics of the World Medical Association and the standards for research's recommendation of the Helsinki Declaration. The protocol was approved by the local university ethics committee. To ensure team and player confidentiality, all performance data were anonymised before analysis.

Match performance data were collected using a computerized multiple-camera tracking system (ProzoneSport Ltd©, Leeds, UK). Player' movements were captured during matches by cameras positioned at roof level and analyzed using proprietary software to produce a dataset of each player's physical performance. The validity and reliability of this tracking system has been quantified to verify the capture process and data accuracy [11-13]. The total distance covered during all official matches was measured. Four thresholds were used to evaluate the distances run in four categories of running intensity: 0.0–14.0 km/h (walking and light-intensity running, Light-IR); 14.1–19.0 km/h (moderate-intensity running, MIR); 19.1-23.0 km/h (high-intensity running, HIR) and >23.1 km/h (Sprint). Five technical variables were examined: shots, passes, successful passes, ball recoveries and clearances. Operational definitions of these variables are presented in Table 1 [14].

Table 1

Operational definitions of the technical variables

Variables	Values of the variables
Shots	An attempt to score a goal, made with any (legal) part of the body, both shots on goal, shots on target, shots blocked and shots from set piece.
Passes	All played passes with the ball
Effectiveness of passes	All positive passes with the ball
Ball Recoveries	Recovering the ball from the opponent in a direct duel
Clearances	Clearance of the ball from the football field in order to relieve pressure

All statistical analyses were conducted using the statistical package Statistica (version 10.0, Poland) SP Results are expressed as means ± standard deviations. Before using parametric tests, the Kolmogorov-Smirnov test completed by the Lilliefors' correction was used to evaluate normality of distribution of the data. A 1-way repeated measures ANOVA was used to compare outcome measures in each category of physical (overall distance covered and that in Light-IR, MIR, HIR and Sprint) and technical performance. Follow-up post-hoc Tukey's post hoc tests were were performed when appropriate. Statistical significance was set at $p<0.05$.

Results. The physical indicators across playing positions in the five successive matches are summarized in Table 2. DCM and F did not show differences in their physical performance across the five consecutive matches. ED, OCM and EM covered higher total distances in the Match 1 compared with Match 2, Match 3, Match 4 and Match 5 ($p<0.05$). Finally, ED and OCM covered higher distances in Light-IR in Match 1 compared with other Matches ($p<0.05$).

When all the playing positions are analyzed jointly, footballers covered higher total distances in TD and MIR in Match 1 (10287.1 and 1636.2) vs. Match 4 (9855.3 and 1516.5) and Match 5 (9875.9 and 1446.0), Match 2 (10215.5 and 1610.4) vs. Match 4 and Match 5, Match 3 (10191.1 and 1610.6) vs. Match 4 and Match 5 ($p>0.05$). Players covered higher distances in Light-IR in Match 1 (5962.7) vs. Match 4 (5767.1) and Match 2 (5941.9) vs. Match 4. Finally, distances covered in HIR were higher in Match 2 (2795.5) vs. Match 4 (2563.4) and Match 5 (2522.0) and Match 3 (2744.6) vs. Match 4 and Match 5 ($p<0.05$). No differences were found in the distance covered by sprint (Table 2).

The technical indicators across playing position in the five successive matches are summarized in Table 3. OCM, EM and F did not show differences in their technical performance across the five consecutive. ED, CD and DCM reported differences in the number of clearances (Match 4 vs. Match 1, Match 2 and Match 3; Match 5 vs. Match 1 and Match 2 and Match 3). ($p<0.05$). However, there is not a clear tendency of how playing multiple games modified this variable. No differences were found between matches in other technical variables.

Table 2

Changes in measures of physical performance in soccer players during the World Cup Brazil 2014 according to their playing position

Variables and position		Matches					Statistical differences	
		Match	Match 2	Match 3	Match 4	Match 5	*F*	*P*
Overall	Total Distance	10287.	10215.5	10191.1	9855.3	9875.9	3.324	0.017 [1]
	Walking and light-	5962.7	5941.9	5828.0	5767.1	5824.3	2.646	0.033 [2]
	Moderate-intensity	1636.2	1610.4	1610.6	1516.5	1446.0	3.750	0.005 [1]
	High-Intensity Running	2685.8	2795.5	2744.6	2563.4	2522.0	2.525	0.004[3]
	Sprint	32.8	35.2	37.0	34.2	34.3	1.798	0.012
External Defenders	Total Distance	10248.0	10184.3	10155.1	9908.2	9703.5	2.583	0.044[4]
	Walking and light-	5941.7	5878.1	5719.0	5731.2	5703.4	2.527	0.048[5]
	Moderate-intensity	1587.7	1600.0	1582.0	1575.7	1429.8	1.501	0.210
	High-Intensity Running	2713.3	2768.6	2782.2	2581.9	2571.1	1.115	0.355
	Sprint	34.7	39.0	39.2	33.7	36.1	1.397	0.243
Central Defenders	Total Distance	9736.5	9756.8	9399.3	9285.5	9256.3	1.597	0.182
	Walking and light-	6095.4	6048.7	5862.7	5810.6	5903.8	1.689	0.159
	Moderate-intensity	1553.8	1548.8	1455.8	1385.8	1348.6	2.636	0.039 [6]
	High-Intensity Running	2091.3	2065.4	2101.9	2033.3	1945.2	1.884	0.120
	Sprint	22.3	26.1	25.8	26.0	24.7	1.174	0.327
Defensive Central Midfielders	Total Distance	11008.	10603.1	10389.4	10397.1	10500.1	0.557	0.186
	Walking and light-	5989.6	5823.5	5559.9	5857.2	5887.7	0.820	0.513
	Moderate-intensity	1990.3	1908.1	1836.1	1782.1	1772.6	0.799	0.530
	High-Intensity Running	3035.9	2873.6	2993.0	2805.3	2761.8	0.653	0.626
	Sprint	30.9	31.2	34.0	32.6	33.8	0.367	0.830
Offensive Central Midfielders	Total Distance	11131.	10461.0	10844.2	9708.9	10060.1	2.832	0.037 [6]
	Walking and light-	5960.8	5951.5	5908.0	5341.1	5725.7	3.358	0.018 [7]
	Moderate-intensity	1944.7	1624.8	1831.6	1564.7	1554.2	1.933	0.124
	High-Intensity Running	3213.7	2895.4	3097.0	2778.7	2780.2	1.158	0.344
	Sprint	35.4	38.7	39.4	35.6	36.6	0.290	0.882
External Midfielders	Total Distance	10613.	10325.1	10578.0	10021.4	10082.3	2.522	0.047 [1]
	Walking and light-	5991.7	5997.1	5980.7	5822.2	5864.8	0.555	0.695
	Moderate-intensity	1596.2	1508.8	1563.7	1420.7	1422.6	1.512	0.206
	High-Intensity Running	3016.9	2835.1	3046.0	2782.9	2794.8	1.690	0.161
	Sprint	43.4	41.3	47.1	41.7	42.7	2.537	0.053
Forwards	Total Distance	9211.0	10216.0	10097.5	9877.2	9980.6	0,719	0583
	Walking and light-	5637.3	5897.5	5907.9	5836.8	5814.0	0.259	0.902
	Moderate-intensity	1226.2	1490.0	1491.9	1392.1	1292.7	0.84	0.504
	High-Intensity Running	2347.0	2830.7	2691.1	2649.2	2495.5	0.785	0.542
	Sprint	32.3	41.5	38.7	39.3	32.7	1.296	0.288

[1] Match 1> Match 4 and > Match 5; Match 2 > Match 4 and > Match 5; Match 3 > Match 4 and > Match 5;
[2]- Match 1> Match 4; Match 2 > Match 4;
[3] Match 2 > Match 4 and > Match 5; Match 3 > Match 4 and > Match 5;
[4] Match 1 > Match 4 and > Match 5; Match 2 > Match 4 and > Match 5;
[5] Match 1 > Match 5;
[6] Match 1 > Match 4 and > Match 5;
[7] Match 1 > Match 4; Match 2 > Match 4; Match 3> Match 4;
[8] Match 1 > Match 4 and > Match 5; Match 2 > Match 4 and > Match 5; Match 3 > Match 4 and > Match 5;

When all the playing positions are analyzed jointly, the number of passes and the effectiveness were different in Match 1 vs. Match 5 and Match 4 vs. Match 5. Finally, the number of clearances were different in Match 4 vs. Match 1, Match 2 and Match 3; Match 5 vs. Match 1 and Match 2 and Match 3 ($p<0.05$) (Table 3).

Table 3

Changes in measures of technical performance in soccer players during the World Cup Brazil 2014 according to their playing position

Variables		Matches					Statistical differences	
		Match 1	Match 2	Match 3	Match 4	Match 5	*F*	*P*
Overall	Shots	2.43	2.28	2.34	2.66	2.03	1.082	0.365
	Passes	48.65	43.12	43.74	50.62	40.64	3.532	0.007 [1]
	Successful Passes	40.84	34.23	34.78	39.56	30.83	3.891	0.004 [1]
	Ball Recoveries	1.11	0.90	1.21	1.06	1.26	1.107	0.352
	Clearances	1.98	2.09	2.09	3.32	2.97	3.486	0.009 [2]
External Defenders	Shots	2.00	1.40	2.00	1.72	1.33	0.515	0.725
	Passes	55.81	51.06	48.66	59.93	50.18	1.423	0.234
	Successful Passes	44.87	39.81	37.53	45.50	36.93	1.298	0.278
	Ball Recoveries	1.37	1.50	1.53	1.75	1.62	0.173	0.951
	Clearances	2.06	2.25	2.66	4.50	4.06	3.578	0.007 [2]
Central Defenders	Shots	1.71	1.25	1.08	1.33	1.20	1.471	0.230
	Passes	50.10	42.33	39.44	49.11	43.55	0,841	0.502
	Successful Passes	45.42	36.83	33.94	42.77	36.72	1.009	0.407
	Ball Recoveries	1.89	1.22	1.44	2.27	2.50	3.185	0.017 [2]
	Clearances	5.73	5.38	5.38	7.50	6.98	2.845	0.038 [2]
Defensive Central Midfielders	Shots	1.66	1.25	1.16	1.87	1.25	1.621	0.202
	Passes	61.63	48.38	49.45	56.15	42.92	1.987	0.178
	Successful Passes	55.72	40.61	42.90	48.78	36.23	1.483	0.219
	Ball Recoveries	1.63	1.40	1.72	1.36	1.32	0.223	0.924
	Clearances	1.63	1.61	1.72	3.14	2.92	3.026	0.024 [2]
Offensive Central Midfielders	Shots	2.42	3.00	2.75	3.50	2.28	0.460	0.763
	Passes	58.88	53.12	65.45	71.28	51.23	0.955	0.442
	Successful Passes	50.22	42.87	53.09	55.28	37.22	0.997	0.420
	Ball Recoveries	0.67	1.02	0.81	0.85	0.59	0.268	9.896
	Clearances	0.44	0.62	0.72	0.71	0.66	0.105	0.979
External Midfielders	Shots	2.69	3.46	2.86	3.66	2.21	1.503	0.211
	Passes	44.56	41.93	37.81	47.37	34.18	1.719	0.154
	Successful Passes	35.56	32.37	28.06	33.31	24.24	1.626	0.176
	Ball Recoveries	0.56	0.43	0.81	0.76	0.81	0.483	0.747
	Clearances	0.43	0.93	0.31	0.93	0.68	1.309	0.274
Forwards	Shots	3.71	2.33	3.12	4.25	3.33	1.107	0.369
	Passes	33.12	29.08	32.08	31.33	27.50	0.468	0.758
	Successful Passes	24.88	19.33	22.87	22.33	19.23	0.554	0.588
	Ball Recoveries	0.66	0.22	0.37	0.33	0.62	0.713	0.588
	Clearances	0.22	0.44	0.62	1.02	1.04	2.841	0.098

[1] – Match 1 > Match 5; Match 4 > Match 5.
[2-] Match 4 > Match 1 and Match 2 and Match 3; Match 5 > Match 1 and Match 2 and Match 3.

Discussion. The study aimed to investigate the impact of playing multiple games with a short recovery time between matches on physical and technical performance in elite soccer players. The major findings was that physical and technical activities were unaffected during the congested fixture period.

The lack of statistical difference in the distance covered at different intensities by footballers playing on the particular position is in line with the studies [15-17]. However, it was shown that when all the playing positions are analyzed jointly, footballers covered higher total distances in TD and MIR in Match 1 vs. Match 4 and Match 5, Match 2 vs. Match 4 and Match 5, Match 3 vs. Match 4 and Match 5. Players covered higher distances in Light-IR in Match 1 vs. Match 4 and Match 2 vs. Match 4. Finally, distances covered in HIR were higher in Match 2 vs. Match 4 and Match 5 and Match 3 vs. Match 4 and Match 5. Some studies indicate that there may occur declines of physical performance in the case of periods of many games with short recovery time between them [18-21].

Concerning technical performance that have been analysed, these findings are in line with those[21] based on studies of technical activities performance in six matches played without a possibility of complete physical recovery of players. They also showed no significant differences between matches, as well as the number of injuries during fixture congestion did not increase. interesting observation was that between M1 and M2 and M3 vs. M4 and M5 appeared significant differences in clearances activity, an element used in defense game. These significant differences concerned only players having in their match tasks mainly defensive actions that are ED, CD and CMD. No differences were found between matches in other technical variables.

It is very reasonable to conduct studies which analyse both physical and technical efficiency of the players as some researchers suggest that these are technical and not physical indicators which to a greaterextent determine the sports level of a player or the position the team occupies in the ranking [22-24]. Nonetheless, physical indicators undoubtedly allow maintaining high technical efficiency of the players [25-27].

Conclusions. In conclusion, it can be stated that there are difficulties in the analysis of performance in matches where recovery time between them is short. The reason is that few players play in all successive matches, for example in four or five as they are subject to injuries or are excluded from the game due to infractions during earlier matches, or are changed to other players in order to recover before next matches. There should be carried out further studies that would determine possibilities of players to maintain high game performance in consecutive matches with a short recovery time as well as the influence of such periods on the technical activity and the level of succumbing to injuries. Supporting such studies with laboratory analyzes would even to a greater extent define behaviors of player's organism to the burden related to the frequency of playing matches.

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Reviews, Chronicles and Personals

Information on the session of the Physical Culture and Sports Section of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine

In October 30-31, 2018, an open session of the Physical Culture and Sports Section of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine was held on the basis of Lesya Ukrainka East European National University (the practice base - the sports and health camp «Gart»).

The section was attended by rectors of specialized higher education institutions, leading scientists of the field of physical culture and sports: **Yevhen Imas** is the Head of the Section, Doctor of Economics, Professor, Rector of the National University of Physical Education and Sports of Ukraine, **I. Kotsan** is a Doctor of Biological Science, Professor, Rector of the Lesya Ukrainka East European National University, **M. Dutchak** is a Deputy Chairman of the Section, Doctor of Physical Education, Professor, First Vice-Rector for Scientific and Pedagogical Work of National University of Ukraine on Physical Education and Sport, **O. Azhippo** is a Doctor of Pedagogical Sciences, Professor, Rector of Kharkiv State Academy of Physical Culture, **A. Tsos** is the First Vice-Rector for Scientific and Pedagogical Work of Lesya Ukrainka East European National University, **O. Borysova** is a Doctor of Physical Education, Professor, Vice-Rector on Scientific and Pedagogical Work of National University of Ukraine on Physical Education and Sport, **N. Moskalenko** is a Doctor of Physical Education, Professor, Vice-Rector for Scientific Activity of the Prydniprovsk State Academy of Physical Culture and Sports, **O. Shynkaruk** is a Scientific Secretary of the Physical Culture and Sports Section Higher Education Department of the National Academy of Pedagogical Sciences of Ukraine, Doctor of Physical Education, Professor, Head of the Department of Information and Innovative Technologies in Physical Culture and Sports; **T.Krutsevych** is a Professor, Head of the Department of Theory and Methodology of Physical Education of National University of Ukraine on Physical Education and Sport, **V. Kashuba** is a Doctor of Physical Education, Professor of the Department of Biomechanics and Metrology of National University of Ukraine on Physical Education and Sport, **Yuriy Bryskin** is a Doctor of Physical Education, Professor, Head of the Department of Sports Theory and Physical Culture of Lviv State University of Physical Culture, **I. Cogut** is a Doctor of Physical Education, Professor, Director of the Research Institute of the National University of Physical Education and Sports of Ukraine, **Jacek Wonschick** is a Habilitated Doctor, Professor, Director of the Institute of Physical Education, Tourism and Physical Therapy at the Yan Dlugosh University of Humanistic and Natural Sciences in Częstochowa (Poland), Chief Editor of «Physical Activity Revie», **P. Savchuk** is a Doctor of Technical Sciences, Professor, Rector of Lutsk National Technical University, **M. Sanikova** is a Consultant of the Legal Affairs, Head of the Scientific Section of European Law, Research Institute of State Construction and Local Self-Government of the National Academy of Legal Sciences of Ukraine, candidate of jurisprudence.

The Section was greeted by ***Igor Kotsan***, the Rector of Lesya Ukrainka East European National University, who noted the importance of the field of physical culture and sports, emphasized the modern problems of science and fruitful work in this direction of the Section.

Yevhen Imas, the Head of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, Doctor of Economics, Professor, Rector of the National University of Physical Education and Sports of Ukraine, emphasized that during its activity the Section considered a number of important issues for the sector concerning the modernization of educational activities by ensuring the formation of innovative, maximum approximation of the education and upbringing of the student to his essence, abilities and taking into account its features, which will promote maximum self-development and self-realization of personality; the formation a modern system of values among students that would promote maximum self-realization of each of them, the establishment of national unity; increasing the significance of education science and physical culture and sport in reforming education; implementation of qualitative training of scientific and pedagogical staff; carrying out the corresponding

work on the formation in the society of the conditions for improving moving activity and healthy lifestyle to form the health of citizens as the highest social value in the country, preparation of the law «On Physical Rehabilitation». He emphasized the need for sport intellectualization.

The work discussed a number of issues.

Anatolii Tsos, member of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, Doctor of Physical Education and Sports, Professor, First Vice-Rector of Lesya Ukrainka East European National University, reported on the achievements, problems and prospects of implementing the Dual Diploma Program in the field of physical culture and sports, shared experience with Polish higher education institutions. The members of the Section exchanged views on this issue, discussed the concept of «Joint Diploma», «Dual Diploma» and «Two diplomas».

Yevhen Imas, the Head of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, President of Student Sports Union of Ukraine, Doctor of Economics, Professor, Rector of the National University of Physical Education and Sports of Ukraine, emphasized the innovative approach of attracting students to the moving activity «Cool Games». The launch of such an all-Ukrainian sports event for children 9-17 years old «Cool Games» will change the attitude of schoolchildren to physical culture, and the lessons will be bright, interesting and attractive for our youth. The organizers of these competitions are the Committee on Physical Education and Sports of the Ministry of Education and Science of Ukraine and the Ukrainian Federation of Student Sports. He noted that in December 1-4, the International Children's Center «Artek» and the International Tennis Academy in Pushcha-Vodytsia will open doors for 550 girls and boys from 24 regions of Ukraine and Kyiv who will compete in the relay race, moving team games and quests «Biathlon», «Gulliver», «Angry Birds», «Conveier», «Sukhyi basein», «Flash», «Fortetsya», etc. Final competitions will be held on December 4 at the Sports Complex «Merydian». Each team will consist of 22 students of the three age categories 9-10, 11-13 and 14-17 years old. The winners of the senior age category will represent Ukraine at Educational Games in Athens and Olympia in March 2019. Also, winners will receive equipment for future competitions.

The members of the Section offered physical education scholars, Professors T. Krutsevych and N. Moskalenko to engage in the study of this area and make suggestions on the development of «Cool Games» and involving children in such games.

Jacek Wonschick, Habilitated Doctor, Professor, Director of the Institute of Physical Education, Tourism and Physical Therapy at the Yan Dlugosh University of Humanistic and Natural Sciences in Częstochowa (Poland), Chief Editor of «Physical Activity Revie», shared the experience of promoting the magazine «Physical Activity Revie» in international science-research facilities and directly into the Scopus database.

Further discussion of problems of the field of physical culture and sports was the presentation on the new Ukrainian school as a school of the European Union by ***Nataliia Moskalenko,*** the Doctor of Physical Education, Vice-Rector for Scientific Activity of the Prydniprovsk State Academy of Physical Culture and Sports. She noted that the reform of the content of general secondary education involves the development of fundamentally new state standards of general secondary education, which should be based on a competent and person-oriented approach to learning, take into account the age peculiarities of psychophysical development of students, predict the acquisition of the skills and abilities necessary for successful self-realization in professional activity, personal life, public activity. These standards should also be based on the Recommendations of the European Parliament and the Council of the European Union «On core competencies for lifelong learning». The key competencies that are defined in the Concept of the state policy in the sphere of reforming general secondary education «New Ukrainian School» for the period up to 2029 are communication with the state and native in case of a differences of language, communication in foreign languages, mathematical literacy, competence in natural sciences and technologies, information and digital competence, lifelong learning, social and civic competences, entrepreneurship and financial literacy, general cultural literacy, environmental literacy and healthy lifestyle. She noted that the programs for studying in primary school have been revised, updated, based on the cross-cutting themes for the basic school, relevant today for our society, and relevant for children, among them - safety and health of a person, it is civil activity, protection of the surrounding environment and sustainable development.

Olga Borysova, member of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, Vice-Rector on Scientific and Pedagogical Work of National University of Ukraine on Physical Education and Sport, familiarized everyone

with the scientific events that will take place in November. So, in Kiev at the National University of Physical Education and Sports of Ukraine there will be international conferences: November 21-22, 2018 - «Sustainable development and tradition in sport: challenges and perspectives» and November 28-29, 2018 - «Actual problems of sports medicine».

A draft Law on the Center for Student Sports of the Higher Educational Institution was put forward for discussion at the initiative of the Committee for the Physical Education of the Ministry of Education and Science of Ukraine. ***Olga Borysova***, member of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, familiarized with the main sections of the Regulation, emphasized the need for such centers in higher education institutions for the development of sport and the introduction of moving activity among young people.

Myroslav Dutchak, a Deputy Chairman of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, reported on the current development of electronic sports in the world and in Ukraine, about holding the All-Ukrainian Electronic Sports Competition «Ukrainian University Open 2018» among Higher Education Students on the International Student Day and invited all higher education institutions to take part in this event.

Myroslav Dutchak, a Deputy Chairman of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, Doctor of Physical Education, Professor, was put up for discussion on the question of accepting a new member in the Section -

Nataliia Moskalenko is a Doctor of Physical Education and Sports, Professor, Vice-Rector for Scientific Activity of Prydniprovsk State Academy of Physical Culture and Sports. All members of the Section supported the proposal.

The section adopted a decision on the establishment and registration of an electronic scientific journal in English, the founders of which will be specialized institutions of higher education, with its further advancement to science-based databases. It is proposed to create a working group to prepare the relevant documents.

The discussion was attended by all the present members and invited people.

There was a round table on the topic **«Center for Student Sports of a Higher Educational Institution: Problems and Prospects».** Moderators were: ***Yevhen Imas*** is the Head of the Section on Physical Culture and Sport of the Department of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, Doctor of Economics, Professor, Rector of the National University of Physical Education and Sports of Ukraine, ***Olga Borysova*** is a Doctor of Physical Education, Professor, Vice-Rector on Scientific and Pedagogical Work of National University of Ukraine on Physical Education and Sport, ***Anatolii Tsos*** is a Doctor of Physical Education and Sports, Professor, the First Vice-Rector for Scientific and Pedagogical Work of Lesya Ukrainka East European National University. Members of the Section, scientific and pedagogical staff of the Lesya Ukrainka East European National University and Lutsk Transport University took part in the round table.

Yevhen Imas, the Head of the Section, was invited to hold the next meeting in January 2019. All members of the Section supported the proposal.

Scientific secretary of the Section
Doctor of Physical Education and Sports, Professor *O. Shynkaruk*

INFORMATION FOR OUR AUTHORS

The edition "Physical education, sport and health culture in modern society"contains the following headings:

- ✓ Historical, legal and personnel issues of physical culture.
- ✓ Physical culture educational technologies.
- ✓ Physical culture, physical education of different groups of population.
- ✓ Curative physical culture, sports medicine and physical rehabilitation.
- ✓ Olympic and professional sport.

In order to submit your manuscript for publishing in the edition and check its current status, you should register at the website (http://sport.eenu.edu.ua).

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By submitting articles authors:

– agree to publish their full text on the Internet;

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Authors give consent to collection and processing of personal data for inclusion into a database according to the Law of Ukraine № 2297-VI "About personal data protection" from 01.06.2010. Names and emails which are indicated by users of this website of the edition will be used only for implementation of internal technical tasks; they won't be spread and transferred to the third parties.

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1. While writing an article ***it is obligatory to follow these rules:***

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- ✓ it is not expedient to put rhetorical questions; give preference to narrative sentences;
- ✓ all references are presented at the beginning of the article; its main content contains presentation of own opinions;
- ✓ the article should have simple structure (without division into sections and subsections!).

2. ***Article structure:*** UDC (Universal Decimal Classification) index; in the right corner of the page – name and surname of the author, email; in the middle – name of the article, name of the educational establishment, city; annotations and key words **in Ukrainian, Russian and English** (annotation volume – 240-250 words).

In the text of the annotation simple sentences, syntactic constructions peculiar to scientific style should be used. There should be no acronyms, abbreviations, general phrases and repetitions of the article title. At the beginning of sentences the following phrases are desirable to be used: i*t is examined, it is established, it is displayed, it is analyzed, it is carried out, it is proven,* etc.

The annotation should function as an independent from the article source of information and enable establishment of its main content.

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✓ results of the work *(the main theoretical and experimental results, found interconnections and regularities are presented)*;

✓ conclusions *(may be accompanied by recommendations, assessments, proposals, hypotheses that are described in the article);*

✓ key words: (5-6) *(reflect the main content of the article, scientific scope, topic are given in nominative case). (With the help of key words scientific articles are searched in databases).*

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✓ **Material and methods of the study** *(number, age, sports qualification of the examined, conditions, duration and succession of experiment conduction are indicated, choice of methods which are used in the study are briefly grounded).*

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✓ **References** (not more than 20, each position should have citation in the text of the article; Internet-citation in the text should be accompanied by full specific URL links) should have sufficient number of **modern** (for the last five years) references that reflect problem of the study. The list should include scientific articles of Ukrainian and foreign (up till 50%) specialized scientific journals, including the one published in the edition "Physical education, sport and health culture in modern society". Information about them must fulfill the requirements of **the State Standards of Ukraine 7.1:2006.** Citations within the text should be put in square brackets, separating each reference with a semicolon, as in the example [3; 4; 6; 8; 12; 15].

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Volume of the article — 8-12 pages with tables, schemes and pictures, A4, Word Editor 97-2003, in format *.doc. font 14 pt, Times New Roman, 1,5 line spacing (in tables 1 line spacing), portrait orientation, without hyphenation.

Annotations and key words – Times New Roman, font 12 pt.

Margins: left – 3 cm, right – 1 cm, top and bottom – 2 cm, alignment – horizontal.

You should differentiate dash (–) and hyphen (-).

Text elements that require highlighting are underlined; meaning of words are put in double quotes.

Amount of table material and illustrations should be appropriate. Figure material is presented in a table and has a sequence number, right-side alignment (for example, *Table 1*) and a name (printed over the table in the middle in bold, for example: **Division of students according to the level of their physical activity**). Text of the table is printed with Times New Roman font, 1 line spacing; portrait orientation.

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