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COMPARATIVE CHARACTERISTICS OF THE STATE OF THE MOTOR FUNCTION OF BOYS AND GIRLS AGED 4-5 YEARS

Voropay S.M., Sukachov O.V.

Annotation. It was considered the reliability of differences in the state of motor function between boys and girls aged 4-5 years. The study was conducted on the basis of pre-school establishments of Kirovohrad involving girls (n = 212) and boys (n = 188) aged 4-5 years. It is used a set of indicators that characterize motor skills, physiological and functional capacity of children. Identified the absence of significant differences in most parameters, except flexibility, performance of boys and girls of 4 years old. In 5 years old children differences in motor function of the state of most of the indicators are significant differences, except high-speed performance abilities and functional capacity of the system. At the organization of the educational process in physical education should be differentiated pedagogical influence on sexual differences.

Keywords: state, motor function, boys, girls.

Introduction

The period from the child's birth to entering school is the most critical stage of organism's development and is the most important in establishing of child's personality [3]. Timely and successful formation of child's motion function, especially in pre-school period of his (her) life, is of the first priority in the system of physical education. From this point of view selection of the most adequate physical education means is rather important. At the present stage searching of such means is rather urgent. Comprehensive physical preparation of pre-school children shall stipulate achievement of optimal motion (physical) abilities' development: quickness, dexterity, flexibility, endurance and strength.

The system of physical education means shall envisage realization of principle of child's comprehensive development, that conditions comprehensive influence on different sides of his (her) motion function, including complex development of all motion abilities. A number of scientists [1,2,3] are inclined to think that one of the most effective physical education means is outdoor games with elements of different kinds of sports.

But with organization of physical education training of pre-school children the demand in differentiating of different means' application, depending on sex of children of the regarded age, has not been clearly determined. In our opinion, solution of this problem is possible with studying of differences of motion function's state of 4-5 years old children, with the help of complex of indicators.

Pre school age – is the period of the most intensive growth and development of a child. Exactly in this age the foundations of future health, physical level are embedded, main features of personality develop. Health and workability of children depend, to large extent, on development of motor functions [1;5].

Training of main movements by pre-school children for development of their physical abilities lays foundation of general physical preparedness that facilitates harmonious development on such important stage – stage of preparation for studying at school **[6]**.

The researches of physical state structure of preschool children are sparse [3], they concern, mainly, pupils of comprehensive schools and only a few of researches is devoted to the problem of correction of pre-school children's physical state [9-12].

Some authors [1, 5] point, that children have age and sex distinctions, requiring individual rate of training. That is why consideration of individual abilities and sex distinctions in training-education process is of great importance for increasing of efficiency of children's physical education. It is possible to realize thorough differentiated training, which implies adapting of educational material to individual and sex possibilities of children with the help of formation of sub groups with approximately equal level of preparedness and differentiating of training methods for them [1].

Psychological-pedagogical researches of Ye.S. Vilchkovskiy [1], S.G. Gavryshko [3] affirm, that pre-school children have great potentials for mastering of different movements.

Studying peculiarities of motion function of boys and girls, S. Gavryshko affirm that 4-5 years old boys have better results by indicators of motion abilities' development, than girls [5].

However, the scientists (Ye.S. Vilchkovskiy and S.G. Gavryshko) remark that they shall be used carefully and with consideration of sex peculiarities of organism's development in pedagogical process.

The present scientific research has been fulfilled as per combined plan of scientific & research works of Kirovograd state pedagogic university, named after Volodymyr Vinnichenko, for 2012.

Purpose, tasks of the work, material and methods

The purpose of the research is to compare motion function's state of 4-5 years old boys and girls of pre-school educational establishments of Kirovograd.

The tasks of the research:

1. Analyze the state of motion function of 4-5 years old boys and girls.
2. Determine probability of distinctions in the state of motion function of 4-5 years old boys and girls.

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The methods of the research: anthropometry (height, weight); functional tests (Shtange's test, Gency's test; psycho-physiological (tapping test, 10 sec., 30 sec.); testing of motion abilities (20 m run, shuttle run 4x9 m, long jumps from the spot, bending of torso forward from sitting position, hanging on bent arms, raising of torso into sitting position).

Organization of the researches: the research was carried out on the base of pre-school educational establishments of Kirovograd with involving of girls (n=202) and boys (n=188) and with the help of commonly used methodic in the following sequence: 1st day – height, weight, Stange's test, Genchy's test; 2nd day 20 m run, shuttle run 4x9 m, long jump, hanging on bent arms. The 3rd day – bending of torso forward from sitting position, raising of torso into sitting position, tapping test 10 sec. and 30 sec.

Results of the researches

In table 1 there are presented indicators of motion abilities, of function potentials and morphological indicators of 4-5 years old boys and girls. The presented data witness about rather big coefficients of variation of the most of indicators, excluding only height indicators. Big coefficients of variation, in our opinion, can be conditioned by different factors, including different typological peculiarities of children.

Table 1

Indicators of motion function's state of 4years old boys and girls

Indicators	Boys (n=71) (x±σ)/V	Girls (n=78) (x±σ)/V	Δx	Δx %	*P*
Quickness					
Run 20 m, sec.	(6,20±0,80)/12,92	(6,46±0,62)/9,66	0,26	4,26	>0,05
Dexterity					
Shuttle run m, sec.	(17,36±2,06)/11,85	(17,355±1,91)/10,99	0,01	0,03	>0,05
Static strength					
Hanging on bent arms, sec.	(4,96±7,82)/157,58	(4,72±4,44)/93,94	0,24	4,84	>0,05
Power endurance					
Raising of torso in sitting position per 1 min., times.	(8,89±5,04)/56,73	(9,88±6,61)/66,89	1,00	11,22	>0,05
Explosive force					
Long jump from the spot, cm.	(68,14±25,42)/37,31	(67,62±18,80)/27,81	0,53	0,77	>0,05
Flexibility					
Torso forward bent cm.	(5,31±3,78)/71,22	(8,15±3,72)/45,61	2,84	53,56	<0,05
Force of nervous processes					
Tapping test 30 sec., times.	(84,62±16,39)/19,36	(91,97±15,29)/16,62	7,35	8,69	<0,05
Mobility of nervous processes					
Tapping test 10 sec, times.	(37,31±8,40)/22,52	(37,47±10,12)/27,02	0,16	0,44	>0,05
Morphological indicators					
Height, cm.	(107,25±5,04)/4,70	(107,45±5,58)/5,19	0,20	0,18	>0,05
Weight, kg.	(17,16±2,10)/12,24	(16,73±3,72)/22,23	0,43	2,52	>0,05
Power of functional system					
Shtange's test, sec.	(11,36±6,74)/59,31	(15,65±9,57)/61,14	4,29	37,76	<0,05
Genchy's test, sec.	(5,51±3,33)/60,48	(7,77±5,46)/70,30	2,26	40,95	<0,05

Analysis of the obtained data permits to affirm that there is a targeted trend of boys' indicators' manifestation, which were studied, in comparison with girls.

Analysis of the obtained data of boys' and girls' motion abilities shoes that the highest distinctions are in indicators of flexibility. 4 years girls have better by 53.6% indicators than boys, see fig.1.

By the level of power endurance girls also have better indicators (11,2%). By manifestation of quickness, static strength and explosive force boys' indicators are better, but difference is within 5%. No difference was found in indicators of dexterity of boys and girls. The presented data show that the differences between indicators, which were studied, are not statistically confident (P>0,05). Only indicator of flexibility is an exclusion (P<0,05).

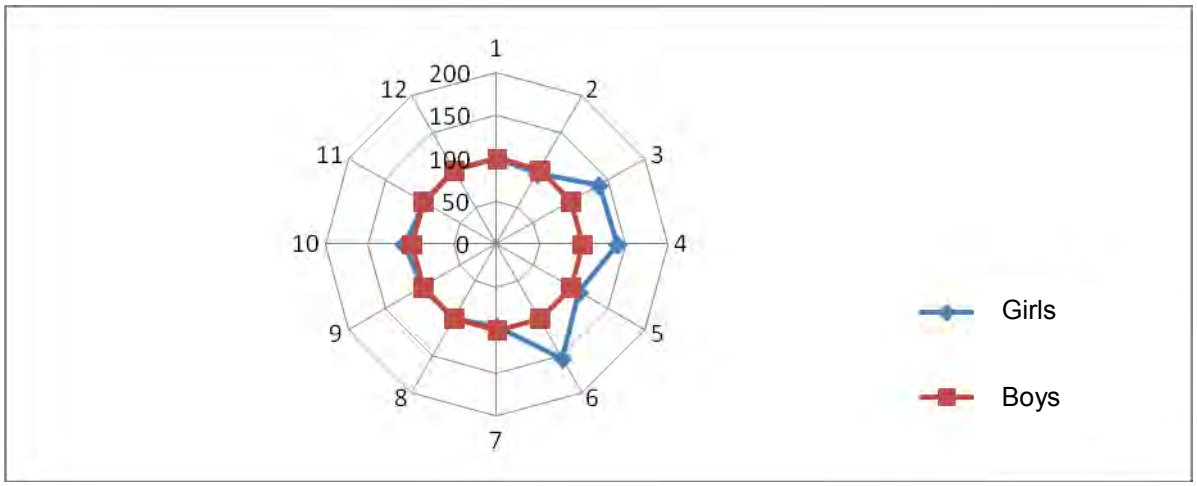

Fig.1 Distinctions of indicators of 4 years old boys' and girls' motion function (percentage)

Notes. 1) Shuttle run бir 4x9 m; 2) Hanging on bent arms; 3) Shtange's test; 4) Genchy's test; 5) Raising of torso in sitting position; 6) Torso forward bent from in sitting position; 7) 20 m run; 8) Long jump from the spot; 9) Tapping test 10 sec.; 10) Tapping test, 30 sec.; 11)Weight; 12) Height.

The data of morphological indicators of 4 years old boys show that the difference between height indicators is nearly absent in comparison with 4 years old girls (0,2%), by weight indicators boys have little priority, by 2,5% (see fig. 1). No confident distinctions were found in these indicators (P>0,05).

Analysis of psycho-physiological abilities of 4 years old children shows that they are manifested better by girls. For example, the force of nervous processes is by 8,7%, higher, mobility – by 0,4% (see fig.1). Confident distinctions were registered only for the force of nervous processes (P<0,05).

Results of girls' functional system's power are confidently (P<0,05) higher, than the boys': Shtange's test – by 37,8%, Genchy's test – by (see fig. 1).

In table 2 indicators of motion abilities of 5 years old boys and girls are presented.

Table 2

Indicators of motion function's state of 5 years old boys and girls

Indicators	Boys (n=117) (x±σ)/V	Girls (n=134) (x±σ)/V	Δx	Δx %	*P*
Quickness					
Run 20 m, sec.	(5,54±0,78)/14,07	(5,88±0,88)/14,99	0,34	1,51	>0,05
Dexterity					
Shuttle run m, sec.	(14,78±1,86)/12,56	(15,45±1,58)/10,21	0,67	2,99	<0,05
Static strength					
Hanging on bent arms, sec.	(6,93±6,33)/91,35	(5,02±5,75)/114,53	1,91	8,55	<0,05
Power endurance					
Raising of torso in sitting position per 1 min., times.	(15,91±7,80)/49,02	(14,37±6,32)/43,98	1,53	6,86	<0,05
Explosive force					
Long jump from the spot, cm.	(98,40±17,54)/17,83	(89,37±15,33)/17,15	9,04	40,41	<0,05
Flexibility					
Torso forward bent cm.	(4,48±3,70)/82,70	(9,28±4,41)/47,46	4,80	21,49	<0,05
Force of nervous processes					
Tapping test 30 sec., times.	(95,04±16,96)/17,84	(96,00±19,16)/19,96	0,96	4,28	<0,05
Mobility of nervous processes					
Tapping test 10 sec, times.	(43,21±10,92)/25,27	(40,09±12,07)/30,11	3,12	13,93	<0,05
Morphological indicators					
Height, cm.	(115,27±4,87)/4,23	(113,76±3,83)/3,37	1,51	6,75	<0,05
Weight, kg.	(19,96±3,57)/17,87	(19,42±3,18)/16,38	0,54	2,43	<0,05

Power of functional system					
Shtange's test, sec.	(16,82±11,17)/66,41	(17,15±8,98)/52,32	0,33	1,49	>0,05
Genchy's test, sec.	(8,24±3,78)/45,83	(8,19±4,41)/53,90	0,06	0,25	>0,05

Analysis of the obtained data of 5 years old children permits to affirm that boys' indicators, which were studied, are higher than the girls; ones.

For example, the boys' level of motion abilities' manifestation is higher in comparison with the girls: quickness – by 6,1%, explosive force – by 9,2%, dexterity – by 4,5%, power endurance – by 9,6%, static strength – by 27,6%. At the same time flexibility indicators of 5 years old boys are much lower – by 107,3% (see fig. 2). With it changes of parameters are statistically confident (P<0,05) except parameter of quickness (P>0,05).

Comparison of morphological indicators also showed boys' higher results: height – by 1,3%, weight – by 2,7%. With it distinctions are confident (P<0,05) (see fig. 2).

Analysis of 5 years old boys and girls by functional indicators showed the girls' higher indicators by Shtange's test (by 2%), but lower than boys' by Genchy's test (by 0,7%) with the absence of confident distinctions (P>0,05) (see fig.2).

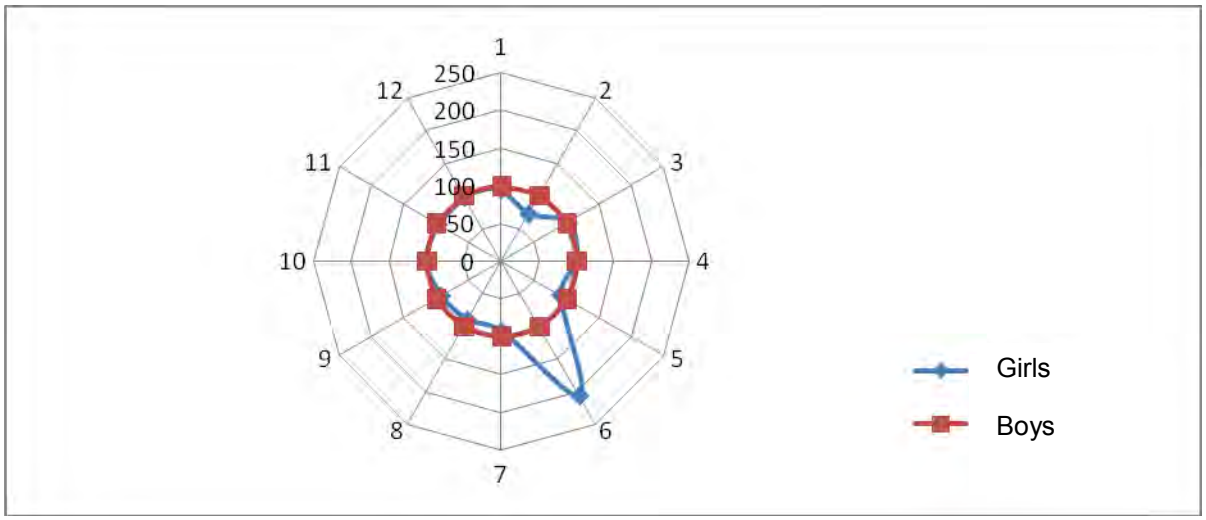

Fig.1 Distinctions of indicators of 5 years old boys' and girls' motion function (percentage) (see notes to fig. 1)

Summary

Results of the researches showed that 4 years old boys and girls have no confident distinctions in most of indicators. Confident distinctions were found only for indicators of flexibility, force of nervous processes and functional system's power. 5 years children have confident distinctions of most of indicators, except indicators of quickness and functional system's power (P>0,05). The obtained data permit to make general conclusion: with organization of physical education training process, it is necessary to differentiate pedagogic influence starting from 5- years' age of children, by their sex distinctions.

The prospects of further scientific researches imply determination of system of differentiated pedagogic influences in compliance with sex distinctions of 4-5 years old children.

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WAYS TO IMPROVE THE METHODICAL COMPETENCE OF TEACHERS OF PHYSICAL EDUCATION AND SPECIAL TRAINING

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Annotation. The purpose of the study – to identify ways to improve the methodical competence of teachers of physical education and special training. It is established that an important component of professional competence of teachers is their methodical competence. Outlines the elements of methodical competence: knowledge, skills, competencies that effectively influence on students and methodically and intelligently implement educational and training goals. Found that the main directions of the formation and improvement of methodical competence of teachers is to actively participate in the activities of educational, methodical, scientific and professional work, training in the skills, self-education. It is shown that the main element of the restructuring of their own teaching activities in the educational environment is purposeful self teachers, which allows you to take them to the methodological creativity. Self-education should be seen as a necessary condition for the implementation of plans to improve the competence of teachers.
Keywords: teacher, skill, methodical, expertise, mentoring, self-education, physical training.

Introduction

Strategic directions of education's development in Ukraine determine the necessity of upgrading of education's content, based on competence approach, its continuity and innovative character. Change of paradigm of education requires specifying of the sense of competence approach in education and detailing of ways of its provision. Concept "competence" is in the base of this approach. Competence is the base of a personality's professionalism [3]. It is usually identified as effective activity of a specialist in his branch. The importance of competence approach's application in military education is conditioned by prospect of creation of professional armed forces till 2017 and by appropriate changes in the system of military specialists' preparation [http://zakon2.rada.gov.ua/laws/show/n0006525-12]. One of disciplines, which is taught in military higher educational establishments (MHEE), is physical education and special physical training (SPT). It is oriented on provision of appropriate level of cadets' physical preparedness, formation of their theoretical knowledge, methodic and practical skills in physical perfection of military officers and in controlling of this process. Successfulness of this discipline's mastering is determined, to large extent, by the competence of MHEE SPT instructors.

Great quantity of scientific researches is devoted to the problems of definition of competence's kinds of specialists, particularly of teachers' professional competence. T.Ye. Kocharian defines professional-pedagogic competence as "maximally adequate and proportional combination of professional and personal abilities of a specialist, which permit to reach high quality results in the process of teaching and education" [10]. A.O. Vitchenko understands professional competence of military higher school instructor as integral indicators of his readiness for solution of educational-scientific tasks on the base of deep special and psychological-pedagogical knowledge, skills, experience, culture of pedagogical communication, ethic and aesthetic of pedagogical activity in conditions of MHEE [1]. V.P. Pasichnyk affirms the professional competence of physical education's instructor is an integrated concept, which combines the following components: world view positions of a personality and his professional features (knowledge and skills) in realization of health improving, diagnostically-prognostic, educational-developing, methodic, educating, communicating, organizing-pedagogical, controlling and illuminating aspects of his activity and constant self-perfection [14]. He reasonably remarks that professional competence is formed during obtaining pedagogical experience by instructor and during his constant work on own self-perfection.

Professional competence is not a constant value; the process of its formation never finishes and constantly changes [14]. According to the researches of D.L. Kulokov the process of professional competence's development is expressed by abilities and skill of a physical education specialist to act independently and with responsibility in the space of physical education [13].

Study of structure of instructors' professional competence leads scientists to conclusion about multi side, complex, multi facet, systemic character of this concept [2, 5, 6, 17, 18]. In the structure of SPT MHEE instructor's professional competence special place is taken by methodic competence, because it is determinative in solution of educational tasks and formation of SPT instructors' authority among cadets. It starts to be formed long ago, during studying of future instructor in profiled educational establishment. At the beginning of pedagogical way, instructor has to master pedagogical thinking, culture of pedagogical activity, didactic and practical educative techniques.

Professional formation of instructor, achieving of pedagogic skillfulness is impossible without perfection of own methodic competence. The embedded theoretical positions require searching of real and accessible means, which would permit to practically realize instructor's desire of methodic competence's perfection.

The work has been fulfilled as per plan of scientific & research works of National university of defense of Ukraine.

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Purpose, tasks of the work, material and methods

The purpose of the research is to determine the ways of perfection of physical education and special physical training instructors' professional competence.

The methods of the research: observation, questioning, comparison, analysis, synthesis, prognostication.

The object of the research is methodic competence of instructors of physical education and special physical training.

The subject of the research is the process of perfection of methodic competence of instructors of physical education and special physical training.

Results of the researches

In research works, which are devoted to analysis of pedagogic activity of teachers (instructors), methodic competence is marked out as a kind of professional competence (in the field of knowledge and skills' formation of students) and it is regarded as a main component of pedagogic skillfulness [12]. N.V, Kuzmina understands methodic competence as being skillful in different methods of teaching, knowing of psychological mechanisms of mastering knowledge and skills in the process of teaching [12]. More detail definition of teacher's methodic competence is proposed by T.A. Zagryvnaya "… integral characteristic of working, personal and moral qualities of pedagogue, which reflects systemic level of functioning of methodological, methodic knowledge, skills, experience, motivation, talents and readiness to creative self-realization in methodic and pedagogic activity in general" [4]. In wide sense methodic competence of teacher is understood by V.S. Shagan: "…this is integral, professional-personal characteristic of pedagogue, which is expressed in his readiness to fulfill all necessary functions and to reach high results in pedagogic activity, self-realizing in it as a personality and as a professional" [16].

Scientists have different view on the structure of methodic competence of teachers. T.Ye. Kocharian thinks that in structural aspect methodic competence of a teacher of vocational education establishment includes: professional knowledge, professional skills, personal qualities, which are ensured by didactic, organizing-analytical and personal talents of pedagogue [10]. The structures of college teacher's methodic competence V.S. Shagan imagines as combination of 4 components: cognitive, praxiological, personality's and motivation-axiological [16]. I.F. Igropulo marks out: value-motivational, cognitive, reflexive, functionally-active components [7, pg. 160]. The same components of higher educational establishment's teacher are regarded by N.V, Solovyova [15, 19]. Instead of functional-activity component this scientist marks out technological and evaluating ones. A.V. Kyselev defines methodic competence as integrative quality of pedagogue's personality, which manifests in his social pedagogical demands, which in their turn, are expressed in ability to effectively influence on students, on the base of having combination of psychological-pedagogical and subjective knowledge and skills and development of professional qualities [8].

Summarizing the above said in the structure of SPT instructors' methodic competence we mark out skills and professional qualities, which permit to effectively influence on the cadets' preparedness and methodically competent realize educative tasks.

Differentiating of components of instructor's methodic competence simplifies understanding of mechanism of its improvement, in the base of which practical methods and means of activity are embedded. During practical SPT trainings instructor organizes motion activity of cadets with different level of preparedness. With it, among declared in educational-qualification characteristics of graduates of MHEE, which prepare SPT specialists, demands to educational and professional level of an instructor (social-personal, general scientific, instrumental competences) it is important to increase just those skills, which form methodic competence of instructor. At MHEE its improvement is stipulated in the process of teaching, methodic, scientific and professional work in the system of advanced training and in the process of self education.

Conducting of trainings is the base of ***educational*** activity of an instructor. Preparation and making of educational documentation organize instructor for carrying out of classes. Documentation of ways of results' reaching stimulates him for more careful *planning* of his activity. Very important stage of instructor's activity, during which his professional preparedness is open, is teaching. Conducting of lectures and seminars requires deep theoretical knowledge and skills in methodic techniques of didactic forms' usage from instructor.

In the process of SPT practical classes, functional-activity component of methodic competence of instructor is developed to the highest extent. Practical SPT trainings are conducted in dynamic conditions on the scattered in space objects of education-material base in the presence of several groups of cadet. Besides, it is necessary to consider the specificity of training of SPT sub divisions (skiing, military-applied swimming, martial arts, overcoming of obstacle course), which is manifested in variety of training conditions (depending on season, climate, object of educational material base, uniform and equipping of cadets.

In the process of practical trainings the requirements to pedagogical skillfulness of instructor in his ability to verbally and practically organize cadets' group, to teach exercises, develop physical (special) qualities of cadets, improve their applied skills, form methodic and render theoretical knowledge, give necessary assistance and ensure safety, simultaneously provide control over trainings are prevailing. Skillfulness of instructor is in his ability to solve tasks in conditions, when cadets are under influence of physical and psychological loads in conditions of reduced concentration of attention and instability of psychological state. Practice of trainings is a good mean of improvement of instructor's methodic competence. But it will be effective only considering and eliminating of mistakes, revealed in the course of diagnostics of training procedure, its analysis, studying of problems and making of positive corrections.

Diagnostics of the conducted training can be carried out in several ways:

familiarizing with opinions of cadets (questioning, talks);

familiarizing with opinions of specialists (conducting of training in the presence of invited specialists with further its discussing;

familiarizing with video materials (video recording of training) and so on.

On the base of self analysis, understanding of the course of training and its results, self evaluating of own professional preparedness, instructor forms demand in perfection of teaching practice, in obtaining new knowledge; he thinks over measures for increasing of his activity's efficiency and elimination of training's faults. Such demand initiates deeper study of up-to-date material, exchange of experience, understanding of own position, comparing it with the requirements of practical activity and formation of new approaches to realization of further trainings' plans.

Improvement of instructor's methodic competence in the process of scientific and methodic work has complex character. Instructor works with literature sources, studies experience, renews and deepens his theoretical knowledge, take part in discussing of problems at conferences, seminars and meetings.

Fulfillment of methodic activity measures (working out of methodic materials, manuals and etc.) permits for instructor to systemize his knowledge, to orient himself in direction of scientific search, to widen his world view. The subject of his search can be new methods, forms of cadets' physical improvement, methods, facilitating density of training schedule, means of warming up exercises' application in order to avoid traumatism, or auxiliary exercises for shortening the terms of difficult exercise's mastering by cadets.

New sports equipment, SIMs, implementation of new progressive forms, methods, methodic, technologies of physical perfection permits to increase effectiveness of SPT trainings. Implementation of scientific achievements and up-to-date technologies for creating of own innovative product in educational process require the instructor should master skills of research work. In the process of scientific activity instructors have opportunity to study the problems of educational process from positions of scientific approach. In the course of scientific research works, preparation of scientific articles, reports, instructor's skills of methodological search during researches are formed.

Tutorial work also plays important role in increasing of instructors', having little pedagogical experience, methodic competence. At MHEE department tutorial work is carried out by assigning experienced instructor to be a tutor of less experienced one and the tutor orients his activity on demonstration of methodic of trainings' conducting, assistance in organization of instructor's activity, observation of instructor's practical activity, analysis and discussion of problems of professional activity, moral and psychological support.

SPT instructor shall constantly increase the level of theoretical knowledge on only in his discipline but also in the sphere of specialties, which are taught to cadets. New information about cadets' professional preparation in interconnection with the processes (regularities) of their physical perfection is accepted with the greatest interest. So, it would be logical to actively use trainings in system of professional preparation for increasing of instructors' competence.

Perfection of SPT instructors' methodic competence is not limited by practical works, which are carried out at MHEE. In out opinion the main element of reconstruction of own pedagogical activity in androgynous educational environment is purposeful self education of instructors, which permits to lead them to methodic creativity.

Self education is present in all kinds of instructors' activity but it must be regarded as compulsory condition of competence improvement plans' realization. The quickness of mastering of urgent professional information is very important for improvement of MHEE instructors' competence. Realization of this fact depends, to large extent, on how instructor knows foreign languages and his skills in using modern information-communicative means.

Summary

1. Methodic competence of instructors of military higher educational establishments is an important component of their professional competence. Because methodic competence includes knowledge, skills, professional qualities which permit to effectively influence on cadets and methodically correctly realize educational tasks.

2. Methodic competence of physical education and special physical preparation instructors is formed and improved in the process of their educational, methodic, scientific and professional work in system of advanced training and self education.

3. Main ways of improvement of physical education and special physical training instructors are:

practice of trainings conducting;

analysis of activity by the results of diagnostics of the conducted trainings' quality and further discussion them with competent specialists;

scientific-methodic and professional work;

self-education;

The studied above ways of improvement of SPT instructors' methodic competence require further researches and specifying of technology of their implementation.

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METHODOLOGY OF PHYSICAL RECREATION: PROBLEMS, EXPERIENCE, RECOMMENDATIONS

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Annotation. The article contains methodical approaches in the process of conducting practical classes with the students on discipline «Physical recreation». The methodical reception is shown, also their definition, the importance of definitions during the life of the person, including the student. The essence of physical recreation in the understanding of students for passive and active recreation is uncover, as well as formulating the tasks in forming, recovering, strengthening and preserving the health of different age groups of the population. The methodological principles of physical recreation described in detail in the context of its performance by students. It uses traditional principal means for physical culture ((physical exercise, movement modes, natural factors, massage, occupational therapy, mechanotherapy). They are distinguished by various forms, methods, and activities, bearing recreational character.
Key words: recreation, physical recreation, definition, higher education institution, student, exercise.

Introduction.

Health, as it is known, is an invaluable position to not only each individual, but also society as a whole. However, it is reasonable to maintain and strengthen the man himself and the public, it provides an active and long-life. This helps him active and passive recreation, ie recreational activities.

Recreation, including recreation, and physical, has a long history, however, the focus of training and scientific concepts, as well as the nature of their application in our country began to study more recently, in Western Europe - with 60-ies of the last century, and in the U.S. - even earlier. Currently, different authors define their physical recreation. So V.P. Zaytsev [4] offers his own definition: physical recreation - an active and passive recreation, along with other recreational activities outside the production, research, training and other activities aimed at the formation, repair, strengthen and preserve human health, as well as bringing pleasure and satisfaction from them, but with the use of physical culture and its forms, and methods of training. Among the main physical education include: exercise, movement modes, natural factors of nature, massage, mechanical therapy and occupational therapy. Forms of study include the following activities: morning hygienic gymnastics, gymnastics, evening exercises, therapeutic dosed walking, training walking the stairs to the floor, path, dosed swimming and cycling, skiing, self-study exercises and etc. These forms of training can be done individually, few-group (4-6 people) and group (12-15 people).

At the same time, Y.N. Prystupa and others [12] believe that physical recreation - the process of using tools, forms and methods of physical training, aimed at meeting the needs of active rest, recovery, entertainment personality free and specially allotted time. Thus, the essence of physical recreation is primarily to identify this phenomenon (process) as a system of different knowledge based on the use of specially organized physical activity in the form of exercise with the use of natural and hygienic factors during free time a person voluntarily and for rest, recovery of their own forces, satisfaction, improve mental and physical abilities, rehabilitation and health promotion.

A.S. Bondar in his textbook "Management of recreation and health work", in 2010 wrote that «Physical recreation is a kind of physical culture: the use of exercise and sports in simplified forms for active recreation people get pleasure from the process, entertainment, switching from one activity to another diversion from the usual kinds of labor, consumer, sports, military activities».

All three definitions indicate that recreation necessarily focused on health, gives him satisfaction is the key to his life, gives us the difference between recreation and various forms of rehabilitation and physical therapy.

Recreation in Latin terminology «recreo» was introduced by the Romans and in Russian language means: to recreate, restore, update, support, refresh, etc. [2, 4, 9]. The main signs of recreation, determining its nature, are considered: to be held in free from work (study) time, is creative, is based on a voluntary basis and is fun and satisfying. She studied in various disciplines: Theory and methods of physical culture, physical rehabilitation, balneology, sociology, geography, economics, engineering, architecture and others. The term "recreation" varies depending on the content of the text. In this case, considering the physical, social, psychological, geographical recreation and its various types [1, 3, 5]. The basis of the same physical recreation is human movement, which occurs mainly in the field of recreation (leisure), and its final result is expressed in the optimization of the physical, mental, social and occupational health [5, 6]. One of its main functions is the creation, restoration, development and human health.

Papers on the subject quite a lot. They reveal the purpose and objectives of recreation, substance use and reflect areas of concern. However, the use of physical recreation activities in the learning process is very little, if any, that are yet informational. To do this, we examined the medical records departments and teaching, references Kharkiv, Kyiv, Lviv and other scientists, teachers and doctors, conducted interviews with teachers and students of the Academy,

studied and conducted surveillance recreational bases of Kharkov. Work was done on the department's plans for research and development.

The purpose of practical training: To familiarize students with the concepts and methodological approaches in physical recreation.

The problems:

1. Study and analyze literature local authors on the subject.
2. Reflect the theoretical aspects of recreation and physical recreation.
3. Reveal problems of recreation and physical recreation, faced by students in their study.
4. Show the importance of recreational activities in the application of physical recreation.

Results.

Recreation is one of the varieties of entertainment. It is always the basis of physical recreation and creative activities of physical culture, forms and methods of training. The concept of "leisure time" in a self-organized manner, or rest, not yet clearly identified, there are still no common understanding of "leisure" and "recreation". At the present time, different authors in their own defined physical recreation.

As you know, the main provision of physical recreation is to strengthen the physical, mental, social, and professional (if a person is working) health and build a foundation for a fruitful mental and physical labor. Their particular tasks are varied and depend on the personal desires of the students. The objective of active rest can be solved, as the need for short-term implementation of the rest during 5-15 minutes at work: physical exercise breaks, sports minute, active at lunchtime. Proposed applies to classes after work or school day. Such a plan will be longer duration of employment. This would include training in the week, weekends and holidays [6, 14].

It's all about the change the type and nature of activities: from rest to mental activity with mental activity on the motor or the one motor to the other motor work only other character. In the first case - may be changing jobs at a desk to exercise, in another - a change of exercises one sport to another exercise (running skater, boxer swimming, weightlifting is in town, skier - basketball or vice versa, etc.) . Activities and change activities contribute to a more rapid recovery of the body after exhaustion. This is particularly important in those occupations in which the person is a lot of time without moving, for example, knowledge workers, or perform monotonous, repetitive motion on conveyors, looms, with lectures and practical exercises. Athlete in intense training sessions to change your character movements, intensity and pace. Both of these species are widely used in manufacturing, design offices, research institutes and other institutions: physical training pause industrial gymnastics [6, 7, 11].

Weight control, changing shapes are critical needs of people of different ages. Most of these classes begin with imitation ideal model, based on a critical assessment of the shortcomings of its own constitution. Thus, men are concerned about an athletic figure, strive to develop muscle relief, remove belly fat, etc. At the same time, women tend to be slim, attractive, have a beautiful figure, a relaxed gait and posture. Why use group work or self. Classes may be taught at home, in sports and exercise rooms with improvised means (weight, dumbbells, expanders, etc.) and special training equipment. Both men and women are concerned sgonke weight, what they also help to exercise.

Prevention of aging and keeping the involution process is also considered one of the problems of physical recreation. Movement activates the body and contribute not only to preserve its biological functions, but their excellence. And this leads to a significant reduction in the rate of involution. This problem is solved with a man of mature age and older as an individual based on their own non-professional physical education, as well as in groups of health and fitness center [15, 17]. Some people physical recreation of motor activity has a great pleasure and satisfaction. This is due, above all, with different games: with a ball, puck, shuttlecock, balls, etc. Their high emotionality is a great incentive for physical exercises. They are executed as spontaneously, independently, on the initiative of the players, and in groups, sections, teams. In the process of physical recreation can individually develop attractive figure: some "swing" muscles, others develop mainly flexibility, others - endurance. In general, a person develops a complex all his physical abilities and personal motor skills: walking, running, jumping, throwing, as well as learn new for him - boating, skiing, biking, skating, possession of the racket and the like.

In this regard, N.V. Fomenko [18] writes that forest walks, communicating with nature cause a person positive emotions. On the other hand, the recreational use of the natural environment there are some unfavorable it changes when a large number of tourists in a particular area can be dangerous for the continuation of the natural development of components of the territory. Consequently, the use of natural recreational resources should be temperate, rational, planned. The task of researchers is the determination of the allowable loads for a given complex to preserve nature.

In recent years, a new hobbies a person which are purely recreational in nature: ecotourism, hang-gliding, windsurfing, Nordic walking, aerobics, shaping and others. By means of physical recreation is any physical exercise, games, entertainment, recreation and sports, satisfying the above requirements. Classes they are organized in specialized secondary schools and universities, in factories, enterprises and institutions, offices, businesses, and various

organizations. Its main goal is to bring creative leisure activities to promote health, not achieving the limit values in sport.

As such, physical recreation can take place in an organized form. But most often it does not need them. Its contents and can easily be adapted to the needs and abilities of any social environment: individuals or groups of people, their sex, age, environmental conditions and the subjective needs of each of the students. Its most important value is that it is, meeting the needs of people in motor activity, a prerequisite for the proper functioning of the human body in other activities: study, work. Educating these needs and is one of the main tasks of physical recreation and physical education non-special people of all ages (one of the criteria of cultural identity). However, unfortunately, most people do not follow the most basic rules of healthy living. Some are victims of physical inactivity, excessive use other high-fat foods, and the result - obesity, atherosclerosis, and others - are suffering from diabetes, and the fourth - not only do not know how to relax, to distract from the industrial and domestic concerns, always restless, "nervousness", suffer insomnia, which eventually leads to many diseases. Some people succumbing to addiction to smoking, alcohol and drugs, actively shorten their lives.

In legislation and in the media this activity is often called the mass physical and pity. First, is the largest mass physical culture, which is carried out in schools and the army. It is in their present weight. Secondly, physical recreation focuses on each person, based on their interests and inclinations. And it was he himself defines the types, forms, duration of exercise. However, we can agree that there are forms of mass physical culture, which are aimed at attracting a large number of people, both as participants and spectators, especially seen in the Olympics, races, celebrations and festivals. They perform an important function of agitation and promotion, promote involvement in the occupation of motor activity of many people [4, 11, 16].

When physical recreation uses common methods, but with an emphasis on individual characteristics: gender, age, inclinations, tastes, health status, level of physical development involved and strict dosage load. The main forms of exercise in adult recreational include hygienic gymnastics, shaping, aerobics, walking skiing, biking, walking, hiking, training sessions in groups of health and sports clubs, industrial gymnastics, swimming, skating, games with balls, frills, balls, etc.

All types and forms of physical recreation can be made at home, in gyms, swimming pools, saunas, clubs and in manufacturing plants, in the places of rest and treatment, while serving in the army. Exercise and motor activity in general beneficial effect on the psyche and all autonomic functions: gas exchange, digestion, cardiovascular, and excretory system, the endocrine glands. They form the basis for a healthy lifestyle, help fight against bad habits and increase the body's ability to resist fatigue and illness. A physical exercise is known to consolidate and develop the skeletal muscle, heart muscle, blood vessels, respiratory system and many other organs, which greatly facilitates the work of the circulatory apparatus and has beneficial effects on the nervous system.

As a result of the lack of physical activity in the human body are broken nerve reflex connections, by the nature and embodied in physical labor, which leads to the breakdown of the regulation of cardiovascular and other systems, metabolism and the development of degenerative diseases (atherosclerosis, etc.).

An important problem is solved by the people for a day of work or study, is to preserve the physical and mental capacity, resistance to mental fatigue. One of the most important means to solve it is to change the nature of the activity, the distraction of her professional types and forms, switching to other species. Naturally, are various types of exercise that are recreational in nature: an introductory gymnastics, physical pause, physical minute the lunch break and after work.

In affluent institutions and enterprises, there are special places for such activities, equipped gear and equipment: playgrounds for football, basketball, volleyball, table tennis, fitness center, bicycle ergometers, billiards. Great opportunities for physical recreation are in nursing homes, homes and recreation centers. There are conducted individually or in groups, all of the above forms of exercise, games, and entertainment. The advantage is that there is more free time and real opportunities for this, including swimming, hiking and ski trips, close tourism and path, the opportunity to engage in group health. These facilities can be performed gymnastic festivals as: "Neptune Day", "Day walk," "Day of swimming", "Day walk on skis" and others. They involve health agency staff, patients and tourists. Such activities can be carried out, based on the methodology of physical recreation, and it includes the following definition: types and functions, recreation and recreational zoning system, accommodation and leisure facilities ratio in special recreational environment.

As we know, physical recreation has two types:

- Short form of recreation - physical exercise, anywhere, but with the return of the night - in the place of residence;

- Long form of recreation - physical exercise people in different places, but an overnight stay away their homes, such as nursing homes, rest homes, camp sites, etc.

In the conceptual apparatus of recreation can also include:

- Recreation system, including the sanatorium, rest homes, boarding houses, tourist camps, sports camps and playgrounds and other facilities for recreation;

- Recreational zoning, which provides a selection of special zones for recreation, development of recreational functions and density of recreational facilities;

- Accommodation and leisure facilities ratio in the recreational special environment, including territorial. When assessing the quality of hygienic area, allocated for recreation, an evaluation of climate and quality define the environment (air, water, soil) for the development of recreation and sustainability to the built environment load;

- The three main functions: biomedical (recuperation and rest in sanatorium conditions), socio-cultural or educational, social and economic.

During recent years studies in physical recreation, as a complex social and biological phenomena. Revealing their essence and action of natural, scientific, and social cycles largely contribute to the further development of knowledge of physical recreation, and also serve as a prerequisite for the development of the theory proposed by the phenomenon [11, 13, 16]. Under physical recreation are any means and forms of physical activity, aimed at creating and restoring forces spent in professional work or school. Highlighted the many features that make it the main content [4, 8, 12]:

- Is based on physical activity;
- Used as a basic means of physical exercise;
- Is carried out in the free or specially allotted time;
- Is carried out on a voluntary basis and amateur;
- Is characterized by the presence of certain recreational services;
- Is performed mainly in the nature;
- Has an optimizing effect on the human body;
- Includes educational and training components;
- Is primarily entertainment purposes;
- Includes cultural and value aspects;
-contains the intellectual, emotional and physical components;
- Has a scientific and methodological base.

This list of signs of physical recreation can be continued. It introduces the different focus on the important aspects and features, different levels, types and forms. Maybe something is missing, some of them are mediated, and some elevated to primacy. Due to the variety of physical symptoms of recreation they are allocated in its various forms: health-enhancing physical recreation, recreation, physical education, recreation, sports, recreation, sport, recreation, tourism, sport and recreation, industrial, and others placed the basis of different forms of different symptoms, a definitive value of many of which simply means, and some of them are considered as synonymous [3, 10, 13].

An analytic way of developing a theory of physical recreation is allowed, and it can not give an answer to the question whether all these features, types, forms and methods are available in the necessary and sufficient quantity. This makes some of the confusion and complicates the perception of physical recreation as a systemic phenomenon. In some writings celebrated the idea that the theory of physical recreation fully developed in the theory and methods of physical training. Is based on that concept of physical recreation in the works of V.M. Vydrin colleagues [1, 2].

The main idea of this concept is the physical recreation as an integral part of physical education and factors that forms the system and serves as the end result - an optimal physical layer, which provides normal functional state of the human body. This concept focuses on the biological side of physical recreation. The other side (cognitive, cultural, communication, entertainment) are considered as co-solution of the main problem. However, the statement is only partially true, since narrowing the problem of physical recreation and requires special study and discussion.

Present physical recreation as a form of physical training, legally, because they have some common features. But scientific hypotheses regarding physical recreation by themselves do not affect the formation of the theory of physical recreation, for providing an indirect effect, justifying and reinforcing the didactic apparatus studying its particular techniques. It has its own theory, which includes not only the physical recreation, but also physical education, sports, motor rehabilitation, which also have their own theories. The presence of common features allows you to combine them to the main system, namely, the theory of physical education. Then the subject of the theory of physical recreation is without its own theory as well as some cognitive technologies that preserve the health of others, as presented in the theory of physical education, and in particular the theory of its species. They can not in sufficient detail and in the right amount satisfactorily fulfill its explanatory function on such a complex and multifaceted phenomenon as physical recreation [2, 4, 8, 12].

It is known in the theory of physical education all the many aspects of physical recreation are fragmentary, incomplete, ambiguous, so that the subject itself was uncertain science of physical recreation. In this case, because of the complexity and diversity of an object such as a physical recreation, it can not be described in sufficient detail from

the perspective of only one, even an "integrative" of science, which is considered to be the theory of physical education. The analysis is more successful if the subject stands out clearly from the position of the party object to serving science: philosophy, history, sociology, cultural studies, pedagogy, psychology, biology, the theory and methods of physical education and others [6, 10, 17].

The obligation in the term "physical recreation" occurs primarily when it comes to analyzing a particular element of physical recreation, and to indicate that the term is used. Recreation, as a scientific discipline, is a generic term for all its kinds and forms, one of which is physical recreation [11, 15]. Usually are such varieties of recreation: the social, biological, psychological, sports, climate, geography and so on. Of the variety of the main features of recreation, as you know, are carried out in their spare time, is creative and active character is based on a voluntary, amateur basis. Without these three important features recreation loses its meaning. At the same time, her other symptoms (cognitive, cultural and axiological, economic, health) - the concomitant and derivatives.

Based on the above, a new research field - recreation [13], a special interdisciplinary science section on recreation and health, reproduction, health and healthy not only healthy people. This section includes the process of physical, social, mental, self-man, in which he becomes more universal ways of human adaptation to the changing conditions of the natural and social environment. This also applies to the chronically ill. Important methodological principle of physical recreation - it is the principle of unity of physical and spiritual, biological and social, body and personality. As can be seen, the highlight of research in the theory of physical recreation is a special area of human life - is the sphere of leisure. Highlighted various types and forms of leisure activities which are of recreational nature. And lead them to a single system is not yet possible [10, 14, 15]. The above allows you to go back to the fundamental problems of physical recreation and to some extent analyze them from the perspective of the theory of general recreation.

As is well known, and this marks N.V. Fomenko [18], something psychological state of a person can be fully restored only in the bosom of nature. Nothing soothes as soft color of grass and leaves a pleasant babbling brook or contemplation for the unique creations of nature. But an important condition for relaxation is the selection of so-called natural recreation systems, ie, that the number of its properties are suitable for use in the area. Therefore, firstly, there is need for areas suitable for leisure activities of the population.

The second problem, which is solved recreational geography, the integrity and purity of the territory. If, along with vacation homes will be available industrial sites, the specified recreation complex will lose its appeal.

Thirdly, as any use of the territory, recreational activities people also has its positive and negative sides. On the one hand, the rest of people close to nature help to maintain and strengthen their health. Phytoncides secreted by many types of trees contribute to improving the health of sick people.

Physical recreation is a form of recreation, and carried out by the motor activity using exercise as fixed assets, which gives reason to refer to this form of physical recreation. Recognition of physical exercise and motor mode as the primary means of physical recreation in the scientific and academic research has long been known. This is true, but requires further research and discussion by experts.

Much of physical recreational activity occur in vivo environment, where environmental factors can also act as its fixed assets. First, physical recreation may have relatively passive forms. Second, at sporting events are only spectators of contemplatives and do not perform active movement. Naturally, the fact that sporting event can serve as a means of physical recreation, which gives recreational effect. From this point of view, the assertion V.M. Vydrina that the main feature which forms a system of physical recreation should consider it as the end result (the target), and for whom this form of organized recreation [1, 2]. Or another example: viewing films at the cinema, going to the theater, reading fiction. The same passive recreation, and also applies to recreational relaxation.

Summarizing the content of the article, you can end with the words O.N. Zhdanova [12]: «Reveals views on the appropriateness of specific exercise for recovery, how to determine reasonable amounts of physical activity and exercise particular dosage in health classes. The dependence of the content and intensity of recreational exercise on the level of physical well-being. Proved highest improving effect of aerobic exercise character to promote general endurance».

Conclusions:

1. Modern life is characterized by an adult in most cases, the pathological state of health, and low physical activity (hypokinesia, lack of exercise) and needs to address these problems of highly qualified specialists in the field of recovery, with professional knowledge and a wide range of practical skills in the organization of recreational activities.

2. Of the achievements of modern life is the awareness and scientific foundation essential role of a healthy way of life in human life. Movement, improving physical education and physical recreation is a leader in wellness programs. They reflect a complex term recovery, including the use of exercise of recreational sports in a simplified form for leisure man of pleasure and satisfaction from these activities, entertainment, and to switch from one activity to another, thus distracting from the conventional ways of working and household activities.

3. The definition of physical recreation is inextricably linked to the organization of recreational rights. Naturally, physical recreation - an active and passive recreation, along with other recreational activities outside the production, teaching, research and other activities aimed at the formation, recovery, development and preservation of human health, as well as bringing pleasure and satisfaction from them with the use of physical culture and its forms and methods of training. By passive rest include: reading fiction, watching films, plays, museums, exhibitions, etc.

4. Physical recreation uses traditional physical culture, plant and equipment: exercise, movement modes, natural factors, massage therapy and mechanic. They are distinguished by various forms, methods, and activities which are of a recreational nature.

Further studies will be conducted in the differentiation of physical recreation in health programs for building and health, reflecting the preventive medicine.

Test questions

1. How do you understand the methodology of the training course?
2. Define physical recreation.
3. What is the purpose of physical recreation?
4.Perechislite attractive individual physical ability to develop strength in the recreational area.
5. That relates to the physical recreation facilities?
6. What forms and methods of training are used for physical recreation?
7. Name the topic athletic festivals held for recreation rights.
8. What definitions apply to the physical recreation?
9. Do you know what types of physical recreation?
10. How do you understand the recreational system?
11. Define recreational zoning.
12. What are the main features characterizing the physical recreation?
13. What types of recreation do you know?
14. As you can imagine recreation?
15. List the student's field of leisure.

Job at home

1. Make a list of scientific papers (in modern bibliography) scientists, teachers and doctors of Ukraine, working on the problem of physical recreation, and report at a meeting of the student scientific circle.

2. Write a paper on the topic: "The historical aspects of physical recreation" and report back to students on practical training.

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ABOUT RELIABLE INDICATOR OF PROPRIOCEPTION IN AGILITY CONTROL

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Annotation. Agility is seen as a complex physical quality due to a complex interaction of motor, visual, auditory, vestibular analyzers. A special role in this development is given to kinesthesia. This motor feeling largely determines the accuracy of the differentiation of power, temporal and spatial characteristics of voluntary movement and is regarded as one of the main indicators of quality in the structure of human mobility. *The purpose of the study* - to make a proposal to improve the procedures for monitoring mobility by quantifying the state of kinesthesia exercise. *Material and methods.* The study included 101 soccers at the age of 14-18 years. Measured fidelity 50% of the maximum values of the force in the joints of upper and lower extremities seven times. Reliability measurement was evaluated by calculating the linear correlation between the results in the sequential series. Stability measurements evaluated in the same way between the results of precision in the first and seventh attempt.
Results. Among the surveyed found significant individual differences in the state of kinesthesia joint efforts in terms of accuracy. Also, different abilities learning accuracy differentiation efforts in a series of successive measurements. *Conclusions*. The expediency of improving the control of mobility in the direction of study of quantitative and qualitative assessment of kinesthesia in the specific conditions of physical education.
Keywords: kinesthesia, control, differentiation, strength, joints, upper, lower extremity.

Introduction

Psycho-physiological principles and pedagogical aspects of training of dexterity, as one of human physical quality, have been comprehensively studied and reflected in the works of well-known specialists [1, 7, 10, 11, 13-16]. It has been shown, that kinesthesia (feeling of motion) mechanisms, which permits to differentiate accuracy of power, time and space characteristics of arbitrary movements in specific conditions of activity, underlie this quality. While perfection of kinesthesia mechanisms, to great extent, is conditioned by co-adjustment of activity of motion and other analyzers, that permit to quickly master new, complex co-ordinations, including taking optimal motion decisions in extreme, sudden conditions. In this connection it can be assumed that further cognition of psych-physiological mechanisms of dexterity can be directly connected with improvement of procedure of human kinesthetic state's measuring.

Concerning the problems of applied character, in particular improvement and control of dexterity in conditions of physical education and sports, here, in our opinion, there appear opportunities for further perfection. It is enough to carry out comparative analysis of materials, devoted to the problem of control in theory and methodic of education of adjoining physical qualities, videlicet, endurance, strength and quickness. Here physiological mechanisms, conditions of manifestation, qualitative and quantitative criteria, requirement to organization of control are clearly formulated [4, 5, 9].

Concerning the established practice of control's organization and formation of dexterity state's evaluation, this quality is controlled and estimated, in the most cases, by results of tests of indirect character. For example, by the time of test's fulfillment in different modifications of short distance run [4]. In this case, conclusions about dexterity's level become directly dependent on the level of other quality, for example quickness, and are expressed in seconds- units for measuring of quickness. Such practice of organization of dexterity control can not meet metrological requirements of objectiveness and reliability of estimations it is accepted in physical education and sports [10, 11]. Alongside with it, materials of this article do not exclude application of established traditions, methods and means for evaluations in the system of dexterity control. Here we present materials of research, underlining purposefulness of improvement of system of dexterity control, oriented on objective quantitative evaluation of kinesthesia state of trainees, as its integral component.

Purpose, tasks of the work, material and methods

The purpose of the research is to propose improvement of dexterity control procedure, by means of quantitative evaluation of kinesthesia's state of people, doing physical exercises.

The model of the research was built on procedure of kinesthesia's state measuring in joints of superior and lower limbs of the tested group in direction of increasing of measurements' reliability with differentiating of 50% from maximal values of strength.

The tasks:

1. To metrically describe reliability and stability of results of strength differentiation's accuracy measurement with multiplex repeated task in different joints.
2. To ground the procedure of objectification of kinesthesia' state evaluation, considering trend in series of sequential measurements.

It can be assumed that using of objective metrically reliable information about kinesthesia's state of trainees will permit to improve the system of dexterity control, increase reliability of diagnostic and prognostic evaluation of sportsmen's abilities in kinds of sports with complex structure of locomotion.

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101 football players of 14-18 years old age took part in the research. From them: 18 years old -32 persons; 16.3 years old – 20 persons; 14.9 years old – 49 players. The research was conducted in scientific laboratory with observation of standard metrological requirements [2]. Measurements of accuracy of force differentiation in joints of superior and lower limbs were fulfilled seven times in static mode. Force value was registered in newtons with tensometric dynamometer DR4-P in block with potentials amplifier WTP3 and computer program MAXv5.5 (JBA, Poland). In compliance with conditions, every tested rendered forces 50% from his, previously registered maximal possibilities in each of joints for seven times.

Reliability of measurements was estimated by calculating of linear correlation coefficient between results of accuracy of 50% force rendering in pairs of sequential measurements in series of seven repetitions of task.

Stability of measurements was calculated by the same static method but between results of the first and the seventh measurement [5, 12].

Results of the research

The character of static distribution of accuracy results of forces differentiation in joints of superior and lower limbs was calculated separately for every age group of the tested. It was necessary as far as the quantitative membership of groups is different and in total quantity of data it would inevitably result in distortion of total curve of statistic distribution. Grouping of variants (value of measurements' errors) we carried out graphically, basing on commonly known approaches [7]. 98% of all results were located on sigmoid scale, within five its limits, corresponding to rule ±3σ. Mean limit of the scale was equal to mean value and contained all results of the tested within limits ±1σ. In further four limits of the scale results within limits ±2σ и ±3σ were located. As example, illustrating total character of statistic distribution of control measurements' results in age groups, we present indicators of accuracy of foeces differentiation of 14 years old players' group (see fig.1).

As it is seen in fig.1 building of frequency polygon and histograms permitted only relatively consider that the scope of measurements of forces differentiation's accuracy of this age group meets the requirements of normal character. Here in the left part of histogram from mean value there are 21 measurements and in its right part – only 16. The similar, to some extent, asymmetric character was seen in the mass of results of forces' differentiation results' accuracy of other groups of the tested.

Frequencies	**2**	**5**	**14**	**12**	**7**	**8**	**1**
Cases, n	● ●	● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ●	● ● ● ● ● ● ● ●	●
Limits of grades (N)	**179**	**205**	**235**	**M 256,7**	**284**	**307**	**332**
	-3σ	**-2σ**	**-1σ**		**1σ**	**2σ**	**3σ**

Fig.1. Grouping of results of measurements' accuracy of forces evaluation (50% Fmax, N) in elbow joint of 14,9 years old tested (n=49)

Attention is also attracted by high variability of accuracy of forces differentiation in every of seven sequential measurements in every age group in joints of superior and lower limbs (see table 1).

Table 1.

Indicators of forces differentiation's accuracy in joints (N) of different age representatives (n=101)

	Hand		Elbow		Knee	
Age, years	M± σ	V%	M± σ	V%	M± σ	V%
18,0	43,5 19,1	88,6	21,9 8,1	78,4	39,1 16,7	74,5
16,3	40,4 17,7	87,9	28,6 10,6	78,3	41,4 18,6	84,3
14,9	32,0 13,2	82,7	18,8 8,0	75,5	27,0 10,3	75,9

As it can be seen in table 1 and fig.1 statistic distribution of total mass of experimental data of 101 respondents in series of seven sequential measurements of accuracy of forces differentiation in each joint was asymmetric. At the same time low accuracy of reproduction of repeated measurements was shown by most of the tested. Probably, low reproducibility of results of forces differentiation's accuracy (V% within 74,5 – 88,6) concerning some of the tested, can be explained by individual psycho-physiological peculiarities of contingent. Both geno- and phenotype factors can underlie the basis of such differences. In general, such differences between people can be considered natural. This exactly explains purposefulness of development and implementation of kinesthesia's state evaluation into practice of general system of dexterity's control.

At the same time, in all groups of the tested, in series of seven repeated measurements of forces differentiation's accuracy we marked clearly expressed trend of results from the first to the seventh measurement (see table 2).

Table 2.

Example of the trend of results of differentiation's accuracy 50% Fmax in elbow joint in the group of 14.9 years old tested (n=49)

Vakue of measurements' errors							
Measurements	1	2	3	4	5	6	7
Error (N)	31,7 ±13,0	22,6 ±11,9	18,9 ±10,9	14,1 ±9,9	15,7 ±7,6	13,3 ±6,9	14,0 ±7,3
Coefficients of correlations between repeated measurements							
1 - 2	2 - 3		3 - 4	4 - 5	5 - 6	6 - 7	
0,691	0,756		0,710	0,803	0,899	0,807	
% of comparability of repeated measurements							
71,3	88,6		74,6	88,8	91,5	89,0	

In this case it was necessary to objectively, metrically show, which measurements from this series can be recognized as statistically reliable. For this purpose, we used commonly accepted method of calculation within test coefficients of correlation [5]. We calculated coefficients of linear correlation between adjoining measurements in series of seven attempts (test-retest method). In our opinion, calculation of correlation coefficients between measurements in such sequence could permit to more accurately characterize reliability, i.e. comparability of repeated measurements' results in situation of expressed trend (see table 2).

Comparison of results of reliability of measurements, registered in our research (see table 2), with general metrological requirements [5], is presented in fig.2.

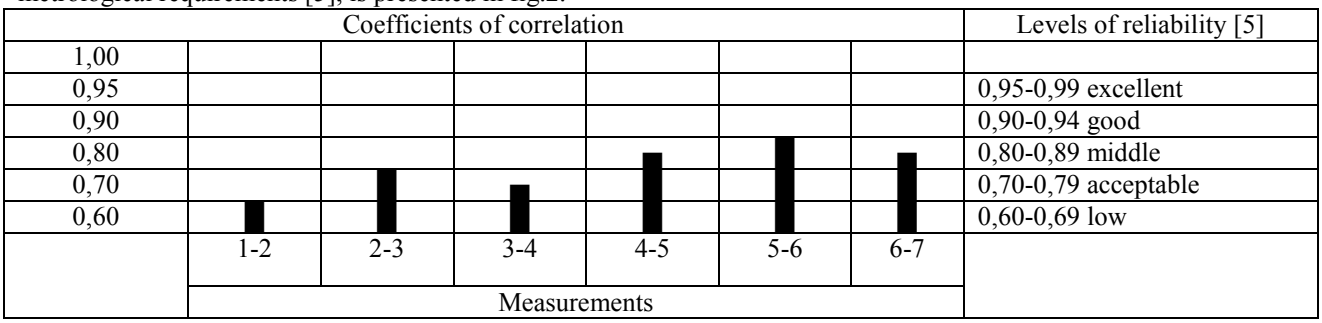

Fig.2. Diagram of establishing and evaluation of differentiation's accuracy 50%Fmax in series of sequential measurements in elbow joints of 14.9 years old football players (n=49)

Results of calculation permit to trace the character of trend of forces differentiation's accuracy of the tested in objective metric units of measurements (see table 2) and in coefficients of correlation, which characterize comparability of results of adjoining measurements in series. In the research we can clearly see the trend of increase of forces' differentiation's accuracy from measurement to measurement. As it is seen in fig.2, in our research already to 5^{th} – 6^{th} attempt the tested demonstrated sufficiently comparable, identical measurements' results at middle level of metrological reliability.

Results of forces differentiation's accuracy, which were registered in series of sequential measurements, permitted to objectively evaluate the state of kinesthesia of the tested by absolute values of accuracy and by quickness of learning capability of forces accuracy.

Discussion of the results

Thus, the main results of the research permit to make some conclusions. First: in the contingent of the tested of 14-18 years old age there were players with different level of kinesthesia development in conditions of differentiation of muscular forces. These differences were expressed in accuracy of reproduction of the set forces with repeated measurements as well as in the rates of learning capability concerning the accuracy of forces differentiation in series of seven sequential measurements. We can assume that different level of kinesthesia's development of different tested is of

natural population character, to large extent conditioned by genotype and phenotype factors. In this connection it becomes purposeful to evaluate the state of kinesthesia in total system of dexterity's evaluation, using, for this purpose, objective quantitative and qualitative criteria. Two criteria can be used for this: stability of reproduction of accuracy of repeated test tasks and quickness of learning of stable high accuracy of measurements.

Secondly, we can assume that it would be reasonable to carry out further perfection of evaluation system of kinesthesia's state in direction of grounding of complex estimation as ability to differentiate accuracy of power, time and space parameters of arbitrary movements.

Besides, it is necessary to consider literature data, which witness about poor transition of kinesthesia's state, formed in certain co-ordination conditions, into adjoining conditions of muscular activity [see reviews 7, 8]. In this connection it is reasonable to evaluate kinesthesia's state on the base of accuracy of differentiation of power, time and space movement6's characteristics, in conditions of applying of specific test tasks. For example, in outdoor games such tasks can be accuracy of ball's throws from different initial positions in static and dynamic modes. Similar techniques can be used in other kinds of sports.

In general, materials of metrological evaluation of kinesthesia's state with differentiation of forces in joints, which were presented in the present article, can serve for grounding of general methodology of researches in the field of further perfection of kinesthesia's state, as a component of dexterity, control.

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FEATURES OF THE REACTION OF THE CARDIOVASCULAR SYSTEM TO PHYSICAL EXERCISE IN PATIENTS WITH PULMONARY TUBERCULOSIS

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Annotation. The aim is to study the response of the cardiovascular system to physical exercise in patients with infiltrative pulmonary tuberculosis. The features of adaptive capacity of the cardiovascular system was considered to physical stress on the results of the sample Martine-Kushelevskogo. The study involved 88 male and female patients with infiltrative pulmonary tuberculosis at the age of 21-35 years. Found that as a result of intoxication syndrome in pulmonary tuberculosis decrease adaptive capacity of the cardiovascular system. The positive effect of physical exercise on the studied parameters. The need to study the adaptive capacity of the cardiovascular system in these patients in order to correct and individualization of physical activity for each patient.
Keywords: tuberculosis, physical, pressure, adaptation, response, cardiovascular, system.

Introduction

At the present stage Ukraine is rated among countries with high level of tuberculosis morbidity and has the highest level of morbidity than most of countries of Central and Eastern Europe. As per criteria of World health protection organization epidemic of tuberculosis has being existed in our country since 1995, and from that time has been continuing to extend. Tuberculosis morbidity in Ukraine has reached the level of 84.1 persons per 100 thousand of population and mortality is 25.3 persons per 100 thousand of population, Besides, 67.4% of those, who fell in tuberculosis for the first time, are the persons of the most workable and reproductive age – from 20 to 50 years old [7, 11, 12].

In the opinion of academician A.Ya. Tsyganenko and prof. S.I. Zaytseva (2004) [10], infiltrative pulmonary tuberculosis takes, to some extent, intermediate place among other clinic forms: it can be both weak and evolutionary form of tuberculosis. In the structure of morbidity it prevails (up to 40% and more). In the period of epidemic this indicator is much higher (up to 60 % and higher).

The main method of treatment of this disease is medicamental therapy, however, among curing means, with therapy of pulmonary tuberculosis, physical activity is of rather great importance, which renders comprehensive health improving effect owing to increasing of different human organs' and systems' functional activity. Treatment of this disease takes much time and it results in rising of periods of temporary disability [8,10,13]. Acceleration of patients' recovering is possible only with applying of complex functional therapy, which is a system of actions, which cause certain positive responses and shifts in different physiological systems of a patient. To these kinds of influence, first of all, therapeutic physical training (TPT), massage, inhalation therapy, physio-therapeutic procedures, conditioning to cold and labor-therapy are rated [3, 4, 5].

Now health improving gymnastics for patients, suffering from tuberculosis, is applied; it is a system of physical exercises of little and middle intensity (depending on the state of a patient) with little amplitude for torso, superior and lower limbs. Regular application of physical exercises improves functioning of cardio-vascular and respiratory systems. In the process of physical exercises' training correct mechanism of breathing is developed, breathing abnormalities are eliminated, ventilation of lungs improves, adhesions and other complications are prevented from, posture is normalized. In physical rehabilitation of patients, suffering from tuberculosis, it is necessary to consider possible lung pathologies and phase character of such changes, the state of cardio-vascular system and its response to dozed physical loads [3, 4, 6].

TPT is prescribed with fading of acute process and improvement of a patient's general state that does not permit to use physical exercise to full extent in physical rehabilitation of weakened patients; besides, physical exercises do not influence completely on the progressing of tuberculosis process as well as on the aftereffects of medicamental chemical therapy. Tuberculosis process in lungs is cured only with the help of medicamental therapy, which causes significant negative changes in nervous and cardio-respiratory systems [4, 6].

The work has been fulfilled as per combined plan of scientific & research works in the sphere of physical culture and sports for 2011-2015 of Ministry of education and science, youth and sports of Ukraine by subject: "Traditional and non traditional methods of physical rehabilitation with diseases of different organism's systems and injuries of supporting motor system of persons of different physical level". Code of subject 4.1, state registration No. 0111U000194.

Purpose, tasks of the work, material and methods

The purpose of the research is studying of cardio-vascular system's response of patients, suffering from infiltrating pulmonary tuberculosis, to physical load in order to optimize dozing of loads in the process of TPT.

The tasks of the research:

– determination of peculiarities of cardio-vascular system's response of patients, suffering from infiltrating pulmonary tuberculosis, to dozed physical load before application of physical rehabilitation methods;

– comparison of peculiarities of patients' cardio-vascular systems' response to dozed physical load after application of TPT, which includes physical exercises with elements of yoga asanas, yoga breathing exercises, regulated

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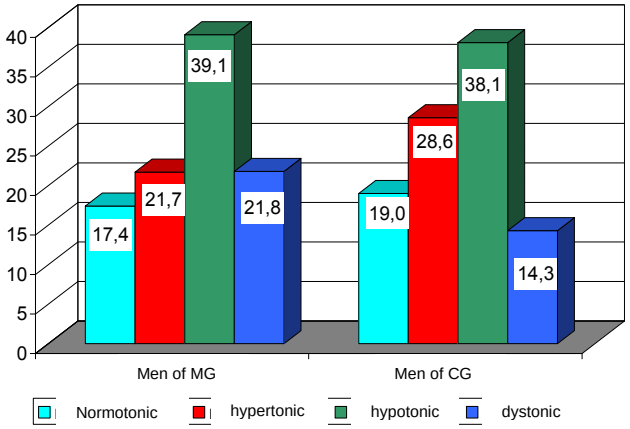
breathing exercises, considering the tonus of sympathetic and parasympathetic branches of patients' vegetative nervous systems (the authors' methodic) and therapeutic gymnastics by methodic of V.N. Murza (1976, 2004).

Materials and methods of the research. The research was carried out in Kharkiv regional anti-tuberculosis dispensary No.1. Our observations covered 88 patients (male and female) with were arbitrary divided into groups: main and control. The first group consisted of men of first maturity (22-35 years old) – 23 persons (average age – 28.9 years); women of first maturity (21-35 years old) – 21 persons (average age – 24.71 years). Control group consisted of first maturity men (22-35 years old) – 21 persons, (average age – 28.24 years) and first maturity women (21-35 years old) – 23 persons (average age – 26.52 years).

Results of the research

The type of cardio-vascular system's response to dozed physical loads of patients we evaluated by the results of Martinet-Kushelevskiy's test, which was carried out in 5^{th}-6^{th} day of patient's staying in dispensary [1, 9]. The test results showed that the examined patients had hypotonic type of response as prevailing (39,1% of main group men and 38,1% of control group men and 47,6% and 47,8% of women correspondingly). Hypertonic type of response was manifested by 21,7% of main group men and 28,6% of control group. (by 33,3% and 26.1% of women correspondingly), dystonic – by 21,8% of main group men and by 14,3% of control group men; concerning women - 4,8% and 4,4% correspondingly). Normotonic type of response was registered at 17,4% of main group men and at 19,0% –of control group men; among women – at 14,3% of main group patients and 21,7% of control group patients (see fig. 1).



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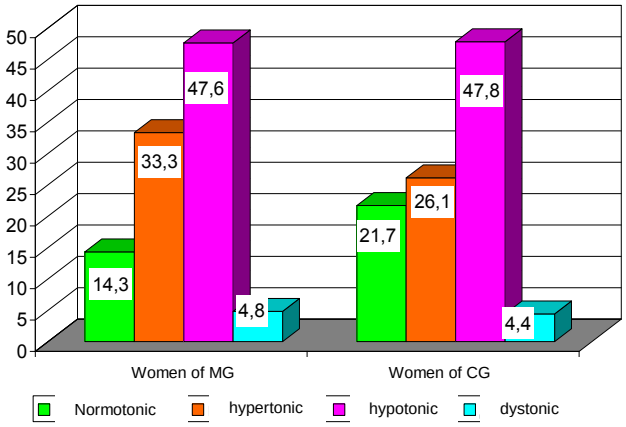


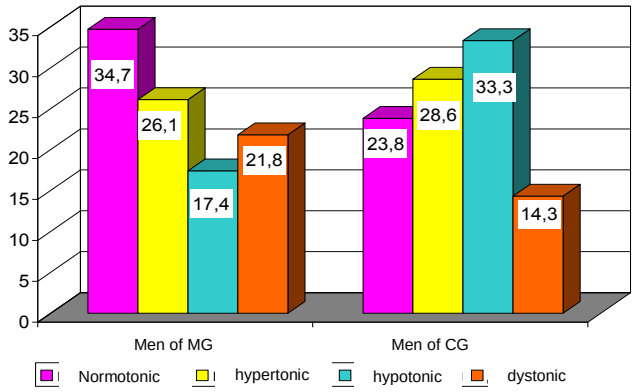
B

Fig. 1 type of cardio-vascular system's response to dozed physical loads at first examination of MG and CG patients (%): A –men; B – women

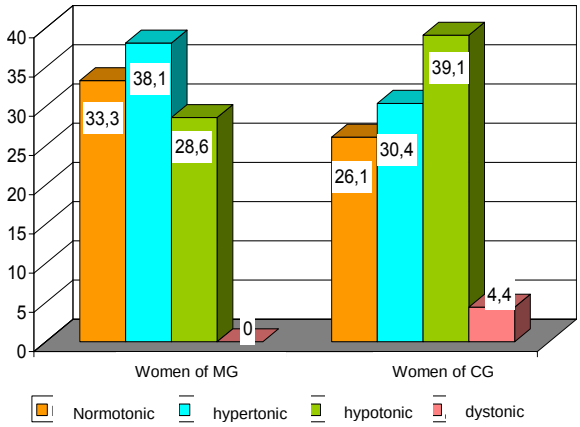
At in-patient stage of rehabilitation treatment, in main group, in complex of physical rehabilitation means we used therapeutic gymnastics, based on physical exercises with elements of yoga asanas, alternated by yoga breathing exercises, regulated breathing exercises, considering tonus of sympathetic and parasympathetic branches of patients' vegetative nervous system (the authors' methodic) [Patent 42604 Ukraine, MPK A61H1/00. Rehabilitation method for patients, suffering from infiltrative form of pulmonary tuberculosis/ Yu.S. Kalmykova, applicants and patent-owners: Kalmykova Yulia Sergiyivna (UA), Kalmykov Sergiy Andriyovych (UA) – № u20091816 від02.03.2009; published on 10.07.2009. Newsletter "Industrial Property" №13], dozed walking and autogenous training by I. Schultz's methodic, modified by V.S. Lobzine and M.M. Reshetnikov [2]. In control group program of physical rehabilitation, which

included therapeutic gymnastics (by methodic of V.N. Murza 1976, 2004) [3, 4], dozed walking and elements of psychological relaxing were used.

After three months of physical rehabilitation in main and control groups we could observe positive changes in adapting to physical loads (see fig. 2).



A



B

Fig. 2 type of cardio-vascular system's response to dozed physical loads at repeated examination of MG and CG patients (%): A –men; B – women

So, with repeated examination we observed increase of quantity of patients with normotonic type of response: MG men – up to до 34.7%, control group men – up to 23,8%, MG women – up to 33,3%, control group women – up to 26,1%; decreasing of patients' quantity with hypotonic type of response : MG men – up to 17,4%, control group men – up to 33,3%, MG women – up to 28.6%, control group women – up to 39.1%.

Thus, with comparing results of first and repeated examinations of response type for dozed physical loads we observed increase of men with normotonic response type by 17,3% in main group and by 4,8% in control; increase of women in main group – by 19,0% and in control – by на 4,4%. The quantity of men with hypotonic type of response reduced in main group by 21,7% and in control – by 4,8%; the quantity of women with hypotonic type of response reduced in main group by 19,0%, and in control – by 8,7%.

Summary

1. With pulmonary tuberculosis reduction of adapting abilities of cardio-vascular system is registered, that is manifested as presence of hypotonic, hypertonic and dystonic types of response to dozed physical loads, examined by Martinet-Kushelevskiy's test, and can be an aftereffect of intoxication syndrome with the given disease.
2. Physical training during three months result in improvement of adapting abilities of cardio-vascular system of the patients of this category.
3. Application of therapeutic gymnastics based on exercises with elements of yoga asanas, alternating with yoga breathing exercises; regulated breathing exercises, considering determination of tonus of sympathetic and parasympathetic branches of patients' vegetative nervous system (the authors' methodic), dozed walking and autogeneous training render more positive influence on adapting abilities of cardio-vascular system in comparison with program of physical rehabilitation, which included therapeutic gymnastics (by methodic of V.N. Murza 1976, 2004), dozed walking and elements of psychological relaxing that is witnessed by reduction of quantity of patients with atypical types of cardio-vascular system's response (hypotonic, hypertonic, dystonic) and by increasing of patients with normotinic type.
4. It is purposeful to study cardio-vascular system's adapting abilities of the patents of such category in order to correct and individualize physical loads.

The further prospects imply fulfillment of correlation analysis between the state of vegetative nervous system and cardio-vascular system's response to dozed physical loads with pulmonary tuberculosis, as well as influence of therapeutic physical culture on the studied indicators.

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DYNAMICS OF PERSONAL DEVELOPMENT ON HEALTHY STUDENTS

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Annotation. The aim is to study the effectiveness of different physical training for the relatively healthy students. The study involved 1004 students. The directions of development of the students' positive personal qualities. Found that the positive development of personality of students observed mostly on the first and third year than in the second. Could not find significant differences between the growth estimates of development of personality traits of students in classes in the sample program and the program specializations. Found that the rate of development of students' personality traits minor: the average growth estimates for core positive personal qualities for 3 years does not exceed 10% of the maximum possible level. Recommended in the classroom more emphasis on developing positive personality traits. It is shown that special attention should be paid to the development of emotional stability of students and their tolerance towards other people.
Keywords: personality, students, physical education, specialization, development.

Introduction

In the process of study at higher educational establishment (HEE) student not only receives knowledge but also develops as a personality. In order to increase the level of graduates' preparedness, it is necessary to give students the opportunity to develop personalities more intensively. Qualitative training of specialists at HEE includes development of students' positive personality's qualities, which would ensure effective solution of students' problems. It is necessary to develop and implement in educational process new effective technologies, facilitating development of student's harmonic personality.

In our HEE during several years, new principle of students' main group physical culture training's organization is applied. Students can chose either general physical training, or one of specializations (power training, swimming, shaping, fitness, outdoor games) in compliance with their preferences of one or other direction of physical culture and attend trainings as per schedule of this specialization and developed for it curriculum. Such approach permitted to increase students' interest to physical culture and to reduce missing of classes. However, the question how such organization of physical culture training process influences on development of students' personalities is still not answered.

Recent years quite a lot of scientific works on different kinds of sports and health improving systems have been appeared (as example works [2,6,8, 9] can serve, there are generalizing works, devoted development of physical [3, 7] and psycho-physical [3] abilities of students of different specializations. However these works do not contain studying of student's personality's development in the process of physical training. Some authors research formation of professionally significant qualities of students of different specialties by means of physical culture (the works by N.A. Aleshev [1] are the closest to the topics of our HEE However, these authors do not regard the question of student's personality's development with different variants of physical culture training: by typical program and by specializations.

The regarded above variants of physical culture training are attended by the students, who, by the state of their health, were related to main or preparatory groups. As far as many of them have some diseases we shall call them relatively healthy students (RHS). In our works [4, 5] we analyzed development of RHS's personalities in the process of their training by typical program of physical culture. However, it is necessary to clear up what has changed for the recent years (i.e. to regard this question in dynamics) and how introduction of specializations has influenced on personalities' development of RHS.

We consider successfulness, ability to achieve aims (personal or put by society) to be the most important positive quality of human personality. Human successfulness is based on other positive qualities of personality, which determine harmonic, creative interaction of a person with environment and himself. The following qualities are related by us to them: positive attitude to life, emotional stability, tolerance to other people, self confidence, activity in life, developed self-consciousness, communicability. Every of the listed eight positive qualities of student's personality is an integral one. It includes several particular characteristics- features of character of a person or his abilities.

In our opinion the following below list of particular characteristics reflects sufficiently completely personalities' integral qualities:

1. Positive attitude to life: ability to learn lessons from troubles, optimism, ability to see positive in any life event, cheerfulness, ability to learn lessons from mistakes.
2. Successfulness: successfulness in study, in business and in personal life.
3. Emotional stability: inner balance, low vulnerability, anxiety, irritability.
4. Tolerance towards other people: ability to understand and accept other people, amicability and low aggressiveness.

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5. Self confidence: high self evaluation, ability to take oneself as it is, self confidence, independence, absence of inferiority complexes.
6. Activity: ability to adjust oneself for important actions, activity in life, purposefulness, self organization, responsibility.
7. Developed self consciousness: feeling of own self as personality, understanding of the necessity to work with oneself, ability to be aware of own state, self control, ability to relax without any additional relaxants (alcohol and etc.), ability to release from negative emotions.
8. Communicability: ability to find friends, relaxedness in communication.

In the process of study at HEE students personalities' positive qualities somehow develop. We shall consider positive personalities' qualities those, with which the extent of development of human above listed eight positive personalities' qualities increases.

During several years we have researched positive personalities' changes of students in the period of their training at faculty of physical culture and sports. In the present work, in order to clear up the dynamics of students' personalities' development, we carried out comparative analysis of some final results, which were obtained in the researches for 2001-2004 (when all PHS were trained by single physical culture program) and 2008-2012 (when students had right to chose either typical program on physical culture or specialization programs).

Modern changes in Russian society, which are directed to humanization and democratization of higher professional education inclusive, require creation of scientifically grounded system of formation of professionals, who would be able to creatively work in certain conditions. One of HEE main tasks is formation of initiative, moral, enterprising and independent personality of a specialist, which would be ready for personality's development. Perfection of educational process of physical culture is an important task. In our HEE, new approach to organization of physical culture training of RHS (trainings by specializations) is applied. The research of students' personalities' development with different variants of physical culture trainings' organization is an important practical task.

The works has been fulfilled as per plan of scientific & research works of Siberian state aero-space university, named after academician M.F. Reshetniov.

Purpose, tasks of the work, material and methods

The purpose of the work is to study effectiveness of different physical culture trainings for RHS and its probable dynamics for clearing up of development of students' personalities' positive qualities.

The tasks of the work:

1. Ti carry out comparative analysis of positive personalities' changes of RHS, who were trained in physical culture during 1-3rd years of study: a) by usual program; b) by the programs of specializations.

2. To carry out comparative analysis of positive personalities' changes of RHS in the periods of 2001-2004 and 2008-2012.

The material of the researches. For the research we selected the students, who actively attended physical culture trainings. They were combined in different groups, who studied at HEE in 2001-2004 and in 2008-2012. These groups are designated as follows: (below, in brackets the sample sizes are given for groups 2001-2004 and 2008-2012 correspondingly): *1, 2, 3* – RHS 1 (146 and 108 persons), 2 (163 and 60 persons), 3 (46 and 135 persons) of students, who attended typical physical culture trainings; *1c, 2c, 3c* – RHS 1 (108 persons), 2 (66 persons), 3 (101 persons) of students, who attended specialized physical culture trainings in 2008-2012. In total, 1004 persons took part in the research.

The methods of the research.

1. Questioning. The questioning of students was carried out at the end of the relevant academic year. In the present research an evaluating questioning was applied.

Many of young people can hardly evaluate the level of their integral positive personalities' qualities' development. However, most of people can rather easily estimate how developed particular features of character or abilities they have and, more over, to what extent they changed for a certain period of time. That is why with questioning of students, we included particular characteristics of eight integral positive qualities of personality in arbitrary order in the list of questions and requested them to estimate the level of development of any of particular characteristics by scale from 0 to 10 points at the beginning and at the end of study period.

2. Primary mathematical processing of results of every student's questioning.

Table

Mean growth of points of students' positive personalities' qualities for the period of study

Personalities' qualities		Years	Growth of points in groups, ±(0 -10) points						Important significant correlations	
			1	*1c*	*2*	*2c*	*3*	*3c*	For every period of time	Dynamics
Positiveness	1	2001–2004	0,6	–	0,6	–	1,0	–	`3`>`1`, `2`	`11` > `12`; `21` > `2c`
	2	2008–2012	0,3	0,4	0,5	0,3	0,8	0,8	`3`,`3c` > др.,`2`*	
Successfulness	1	2001–2004	0,1	–	0,6	–	1,1	–	`3`>`1`, `2`	`21` > `2`, `2c`; `31` > `32`, `3c`
	2	2008–2012	0,0	0,0	0,2	0,1	0,6	0,5	`3`,`3c` > др.	

Emotional stability	1	2001–2004	–0,1	–	–0,1	–	0,0	–	`1`= `2`=`3`	–
	2	2008–2012	–0,3	–0,2	–0,1	–0,3	–0,1	–0,1	–	
Tolerance	1	2001–2004	0,2	–	0,2	–	0,6	–	`3`>`1`, `2`	`31` > `32`
	2	2008–2012	0,1	0,0	0,1	0,1	0,2	0,4	3c` > все, кр. `3`	
Self confidence	1	2001–2004	0,6	–	0,7	–	1,0	–	`3`>`1`, `2`	`21` > `2c`
	2	2008–2012	0,4	0,5	0,5	0,4	0,7	0,8	`3`*,`3c` > `1`,`2c`	
Activity	1	2001–2004	0,5	–	0,6	–	1,0	–	`3`>`1`, `2`	`31` > `32`, `3c`
	2	2008–2012	0,3	0,4	0,5	0,5	0,7	0,6	`3`* > `1`,`1c`	
Self control	1	2001–2004	0,5	–	0,6	–	1,0	–	`3`>`1`, `2`	`31` > `3c`
	2	2008–2012	0,3	0,4	0,6	0,6	0,9	0,6	`3` > (все)	
Communicability	1	2001–2004	0,8	–	0,9	–	1,0	–	–	`21`* > `2`, `2c`; `11` > `12`, `1c`
	2	2008–2012	0,4	0,4	0,6	0,6	1,2	0,8	`3` > (все); `3c` > `1`,`1c `	

First of all we calculated the difference between initial and final points of every particular characteristic of each integral positive quality of personality – growth of points for the period of study. If particular characteristic was negative (for example "aggressiveness"), than as a corresponding positive mark we took value 10-N, where N – extent of development of negative particular characteristic.

Than, for every from eight integral positive qualities of student's personality we calculated mean values of points' growth of different personality's qualities, which were his manifestations.

3. Statistical methods of data processing: 1) calculation of mean values of points' grows of main integral positive qualities for every group of the questioned; 2) estimation of confidence of differences between mean values by t–criterion of Student. Differences were estimated as significant with significance level less than 0,05 and were interpreted as a trend to difference with significance level more than 0,05, but less than 0,15 (in the table these cases are marked with asterisk). The values were considered equal with significance level more than 0.75.

Results of the researches

Below we presented a final table of mean points' growth of above mentioned eight main positive personality's qualities' development of relatively healthy students of 1-3 year of study for the relevant period of study.

Legend of the table: oth.. –other; bs. – besides; in the last graph of the table sign «`» marks the data of mean points' growth of personalities of the relevant year students. For example, «`1`» means "the data of group *1*, i.e. 1st year RHS, who were trained by typical program, «`1c`» marks "the data of group *1c*, i.e. RHS of the 1st year, who were trained by one of the specializations" and so on. Figures 1 and 2 after main designation mean correspondingly "first period of study, i.e. 2001-2004" and "the second period of study, i.e. 2008-2012". For example, «`11`» means "data of group *1*, i.e. RHS of the 1st year of study in 2001–2004".

The questioning of students showed the following:

1. Positive personality's changes are manifested to some or other extent by students of all years of study both in 2001–2004 г., and in 2008–2012. In both periods of time final marks of six from eight main positive personality's qualities of students (except emotional stability and tolerance to other people of 1st and 2nd year students) are significantly higher than initial. Final marks of tolerance to other people of the 1st and 3rd year students in 2001–2004 г. were higher than initial as trend (significance level of difference 0,14 and 0,07 correspondingly), initial and final points of tolerance of the 2nd year students differed insignificantly. In 2008–2012 г. final points of tolerance were significantly higher than initial only of the 3rd year students, who were trained by specializations.

We can conclude that in the process of training of 1-3 years students, personalities of RHS develop. However the rate of this development, by self estimation of students, is little (mean growth of points of personality's main positive qualities for 3 years of study does not exceed 10% from maximal possible level).

2. All personality's positive changes of RHS of the first and second years of study differ insignificantly both in 2001-2004 and 2008-2012. For 6 positive qualities of personality from 8 (except emotional stability and communicability), the growth of positive characteristics of third year students is much higher than of 1st and 2nd years RHS in 2001-2004; in 2008-2012 – for 7 (except emotional stability). It means that connection of RHS personality's positive development with period of study is non-linear; positive development of students is observed at the first and the third years of study is better than of the second year students. The biggest changes of main personality's positive qualities were manifested by RHS of the third year of study, independent on the program, by which they were trained.

3. Both in 2001-2004 and 2008-2012 RHS of all years of study did not manifest development of one positive quality – emotional stability. The growth of points for emotional stability for all students is the same and is close to zero; in 2008-2012 it differ insignificantly. It means that the level of psychological stability of RHS does not change during study at 1-3 years.

4. In recent years very important indicator of humanistic orientation of personality – tolerance towards other people-of 1st and 2nd years RHS have not changed (independent on physical culture program). Significant growth of this quality (by self-evaluation) was shown only by the 3rd year students, who were trained by specialization of physical culture.

5. We also could not find significant difference between the growth of points for development of personality's qualities of RHS, who were trained by typical program) and for RHS of the same year of study, who were trained by the programs of specialization; for students of the first and second years of study it is valid for all personality's qualities and for the third year students – for 6 from 8. May be it is connected with small size of samples for groups, which were trained by specializations. We hope, the further research will permit to clear up, which variant of physical culture training facilitates development of student's personality best of all.

6. Comparing data for 2001-2004 and 2008-2012 we can notice that there is a negative dynamics of points' growth of personality's positive qualities' development. For three qualities, points of 1st and 2nd years students are much lower in 2008-2012 than in 2001-2004; concerning the 3rd year students, the points of both variants of physical culture training differ insignificantly. For other three qualities from eight the points of their growth is much lower in 2008-2012 than in 2001-2004; concerning the 3rd year students – they are lower either for one or for both variants of physical culture training. With it, the points of 1st year students or of the 1st and 2nd year students of both variants of physical culture training differ insignificantly. It means that in recent years studying at HEE, at faculty of physical education and sports inclusive, has been developing personality of students to the less extent than 10 years ago. Educational process of HEE shall be improved in the aspect of development of students' personality.

Summary

1. With any variant of physical culture training of 1-3 year RHS, students' personality develops to some extent.

2. Connection of RHS personalities' development with period of study is non-linear; to higher extent positive development of students is observed at the first and the third years of study than at the second. The biggest changes of main positive personality's qualities are manifested by RHS of the third year of study, independent on the program, by which they are trained.

3. In the aspect of personality's development physical culture specialized trainings are not more effective than typical physical culture classes.

4. At physical culture trainings for RHS it is necessary to pay more attention to the questions of personality's positive qualities' development. Special attention shall be paid to the development of students' emotional stability and their tolerance towards other people.

In the present work we have carried out analysis of development of personality's positive qualities of RHS, who were trained by typical physical culture training and, in average, by specialization programs, without paying attention to every separate specialization. The samples of groups, which were trained by specializations programs, were too small to obtain confident data about personality's development of these students for 1, 2 or 3 years of study. In the nearest 1-2 years it is necessary to conduct questioning of students with increased samples' sizes in order to have opportunity to work out recommendations on perfection of physical culture educational process in the aspect of development of students' personalities' positive qualities. Besides, it necessary to carry out analysis of dynamics of positive personality's qualities' development of special health groups' students, who are trained in-0class and out-of-class by special program.

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TRAINING WORKSHOP ON THE BASIS OF GYMNASTIC QIGOING AS A FACTOR OF PERSONAL DEVELOPMENT OF STUDENTS WITH POOR HEALTH

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Annotation. The aim is to study the effectiveness of the training of students of special medical group health program of the workshop and its change in the context of the students' positive personal qualities. A total of 282 participated relatively healthy 3 rd year student and more than 250 students of special medical group. Survey methods were used and statistical methods of data processing. It is proved that the lessons of the workshop on the basis of health qigong exercises are more effective in terms of personality development of students than the physical training for the relatively healthy students. It is proved that the development of positive personality traits of students increases with the duration of their training under the program of the workshop. It is shown that any of the workshop sessions on the basis of qigong exercises are an important factor in personal development of students with poor health.
Keywords: students, physical education, qigong, personality development.

Introduction

Great number of higher educational establishments' students has problems with health and it is proved by the researches, which have been carried out by domestic and foreign scientists for the last ten years. In different HEE situation is nearly the same: about 35–40 % of students have weak health, less than 70% of students belong to special health group [8]. Students, who attend physical culture trainings for main groups can be considered only relatively healthy (RHS) because most of them have some weak diseases or diseases of middle gravity. It is necessary to develop and implement in academic process new technologies, increasing health improving efficiency of physical culture trainings for students with health problems. These technologies shall be effective both as means of physical and psychic improvement of students' health and as means of development of students' sound personalities.

In our HEE up to 12% of students, who study at faculty of physical education and sports, belong to special health group (SHG). Such students are trained in physical culture by specialization program "Health improving practical training on the base of Chinese gymnastics Tsi Gun (HIP).

This program stipulates in-class trainings, at which students fulfill special health improving exercises: relaxing and joint warming ups, Chinese gymnastics Tsi Gun and exercises for self-control (in detail, see [1]).

Part of SHG students, who study by the program of this specialization do not attend in-class HIP trainings owing to different reasons. These students fulfill individual home tasks (HT). HT is a system of exercises for self-control, emotional re-creation, for development of positive relation to themselves and to life, for solution of personal problems (in detail, see [1]).

In scientific-pedagogical literature for last years we could not find publications, devoted to analogous complexes of HEE students' training. The closest by topic the works by S.A. Litvinov [5], A.V. Makarov [6] and T.V. Sastamoynen [7] can be considered.

S.A. Litvinov and A.V. Makarov studied effectiveness of gymnastics Ushu (analogue of gymnastics Tsi Gun), but only for perfection of physical level of students, who attend main groups of physical culture classes. These authors did not regard application of this gymnastics for SHG training and for development of students' personalities.

T.V. Sastamoynen studied effectiveness of sahadzha yoga exercises for SHG students' training both for psycho-physical development and for spiritual perfection of trainees. These trainings contain components, which change social-psychological and mental qualities of a person, but they do not contain exercises analogues to Chinese gymnastics Tsi Gun.

In our works [3, 4] we fulfilled analysis of SHG students' personalities' development in the process of their training by HIP program. The obtained results witness about high effectiveness of HIP trainings for development of student's personality. However, it is necessary to clear up what has changed for recent years (i.e. to regard this problem in its dynamic) and in what direction it is required to improve HIP.

A personality can be considered healthy, if it has eight main positive qualities developed, each of them including several particular characteristics –features of character or human abilities (the latter are listed below in brackets): positive attitude to life (ability to learn lessons from troubles, optimism, ability to find something positive in any life event, cheerfulness, ability to make correct conclusions from mistakes), successfulness (in study, in business, in personal life), emotional stability (inner balance, low vulnerability, low anxiety and irritability), tolerance towards other people (ability to understand and accept other people, amicability, low aggressiveness), self-confidence (high self evaluation, ability to accept own self as it is, faith in own forces, independence, absence of inferiority complexes), activity (ability to adjust oneself for important things, life activity, purposefulness, self-organization, responsibility), self control (awareness of own self as personality, awareness of demand in work with own self, ability to understand own state, ability to relax without any relaxants like alcohol and etc., ability to release negative emotions), communicability (ability to communicate, to find friends, relaxedness in communication).

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Let us consider that positive personality's changes are those, with which the extent of development of the listed above eight personality's qualities increases.

During several years we researched students' positive personality's changes in the period of their study at faculty of physical education and sports. In the present work, in order to clear up the dynamics of trained by HIP program SHG students personalities' development, we carried out comparative analysis of some final results, which were obtained in researches, conducted in 2001-2004 and 2008-1012.

Modern changes in Russian society require upgrading of education and, in particular, upgrading of physical culture educational process. One of the main tasks of higher educational establishment (HEE) is formation of initiative, moral, enterprising and independent personality of a specialist, who would be ready to personal development. Development and implementation in educational process of new effective technologies both for physical and psychic students' health and for their personalities' development in the process of their study at HEE is an important task. In our HEE new health improving technology has been introduced in educational process – health improving practical training on the base of Tsi Gun gymnastics for SHG students. The research of this upgrading of educational process is an important practical task.

The work has been fulfilled as per plan of scientific & research works of Siberian state aero-space university, named after academician M.F. Reshetniov.

Purpose, tasks of the work, material and methods

The purpose of the work is to study effectiveness of SHG students' training by HIP program, its probable dynamics in development of positive personalities' qualities development.

The tasks of the work.

1. To carry out comparative analysis of positive personalities' changes of SHG students, who were trained by HIP program during 1-3 years and relatively healthy students (RHS) of the 3rd year of study, who had the best indicators among RHS of the 1st-3rd years of study [2, 3].

2. To carry out comparative analysis of positive personalities' changes of SHG students, who were trained by HIP program in the periods of 2001-2004 and 2008-2012.

Material of the researches. For the researches, we selected the students, who actively attended physical culture trainings. They were arranged in different groups of students, who studied in HEE in 2001-2004 and 2008-2012. These groups are designated as follows (below, in brackets, the sample sizes are given for groups of 2001-2004 and 2008-2012c correspondingly): *3* RHS of the 3rd year of study (46 and 236 persons), who attended usual physical culture trainings; A1 – SHG students, who attended in-class HIP trainings during one academic year or less (45 and 169 persons); A2 SHG students, who attended HIP trainings during three or four semesters (12 and 53 persons); A3 – SHG students, who attended in-class HIP trainings during five or six semesters (16 and 33 persons); D1 – SHG students, who fulfilled HT during one academic year or less (27 and 69 persons);D2 – SHG students, who fulfilled HT during three or four semesters (18 and 35 persons); D3 – SHG students, who fulfilled HT during five or six semesters (4 and 12 persons, who fulfilled HT in full scope); In total, 282 of RHS of the 3rd year of study and more than 250 of SHG students took part in this research.

The methods of the research.

1. Questioning. At the end of corresponding academic year students were proposed to evaluate by 0-10 points' scale the level of their personalities' development at the beginning and at the end of academic year.

2. Primary mathematical processing of the questioning results of every student: 1) calculation of difference between initial and final evaluation of every characteristic of main positive personality's quality – growth of points for the period of study (as a positive mark of negative quality we took value 10-N, were N – is evaluation of the extent of negative quality's development); 2) calculation of mean value of points' growth for certain personality's qualities, which were the manifestations of every of eight main personality's qualities.

3. Statistical methods of data processing: 1) calculation of mean value of points' growth of main positive personality's qualities for every of the questioned group; 2) evaluation of confidence of difference between mean values by t–criterion of Student. Differences were accepted as substantial with significance level less than 0.05 and were interpreted as a trend to difference with significance level more than 0.05, but less than 0.15 (in the table below these cases are marked with asterisk). The values were accepted as equal with significance level more than 0.75.

Results of the researches

Below we present final table of mean values of points' growth of eight listed above positive personality's qualities' development for 3rd year RHS and SHG students, who were trained by HIP program for corresponding period of study (1, 2 or 3 years).

Legend of the table: oth.- other; `3` – data of group *3*, i.e. RHS of the 3rd year of study; A – data of all SHG students, who attended in-class HIP trainings; D – data of all SHG students, who fulfilled HT.

Table 1

Mean grows of points of students' personalities' positive qualities for a certain period of study

Qualities of personality		Years	Growth of points +(0 -10) points							Important significant correlations	
			3	A			H			For every period of time	Dynamics
				A1	A2	A3	D1	D2	D3		
Positiveness	1	2001–2004	1,0	1,4	2,0	2,2	2,6	2,8	3,6	`3` < all; A2, A3 > A1; D > A	A32 > A31
	2	2008–2012	0,8	1,5	2,1	2,9	2,7	2,5	3,4	`3` < all; D, A3 > A2 > A1	
Successfulness	1	2001–2004	1,1	0,7	1,3	2,0	1,8	2,4	2,3	`3`, A1< oth.; A3 >A2; D2 >D1, A	`31` > `32`; A31 > A32; D21 > D22
	2	2008–2012	0,5	0,8	1,1	1,3	1,6	1,8	2,1	`3` < all, A1*; A3, D1 > A1; D2 > A2; D3 > D1, A3	
Emotional stability	1	2001–2004	0,0	0,7	1,0	1,3	1,8	2,2	2,4	`3` < all; A3 >A1; D2 >D1, A	A32 > A31; D21 > D22
	2	2008–2012	–0,1	0,9	1,3	2,0	1,6	1,8	2,7	`3` < all; A3 > A2 > A1; D1 > A1; D2 > A2; D3 > D1, A3	
Tolerance	1	2001–2004	0,6	0,8	1,3	1,5	1,9	2,5	2,4	`3`, A1< oth.; D2 > D1, A2	`31` > `32`; A12 > A11; A32 > A31; D21 > D22
	2	2008–2012	0,3	1,2	1,4	1,9	1,9	2,0	2,8	`3` < all; A3 > A1; D1 > A1; D2 > A2; D3 > D1, A3	
Self-confidence	1	2001–2004	1,0	1,1	1,6	2,7	2,1	2,4	2,8	`3`, A1< oth; A3 > A2; D1 > A1; D2 > A2	A31 > A32*
	2	2008–2012	0,8	1,2	1,7	2,4	2,0	2,2	2,8	`3` < all; A3 > A2 > A1; D3 > D1; D1 > A1; D2 > A2	
Activity	1	2001–2004	1,0	1,0	1,1	1,6	1,8	2,3	2,2	A3 > A1,`3`; D2 > D1; D1 > A1, `3`; D2 > A2 >`3`*	`31` > `32`; A22 > A21*
	2	2008–2012	0,6	1,1	1,5	1,6	1,8	2,2	2,8	`3` < all; A2*, A3 > A1; D1 > A1; D2 > A2; D3 > D1, A3	
Self control	1	2001–2004	1,0	1,4	2,0	2,2	2,7	2,9	4,0	`3` < all; A2, A3 >A1; D > A	`31` > `32`; A12 > A11; A32 > A31
	2	2008–2012	0,7	1,7	2,1	2,7	2,6	2,6	3,2	`3` < all; A3 > (A2* > A1); D3 > D1, A3*; D1 > A1; D2 > A2	
Communicativeness	1	2001–2004	1,0	0,7	1,1	2,0	1,7	1,7	2,4	A3, D > A1, A2, `3`	A12 > A11*
	2	2008–2012	1,0	1,0	1,2	1,9	1,5	1,6	2,2	`3` < A3, D; A3 > A2, A1; D1 > A1; D2 > A2*	
Mean values of all qualities	1	2001–2004	0,8	1,0	1,4	1,9	2,1	2,4	2,7	`3` < all, A1*; A3 > A2 > A1; D1> A1, A2; D2 > A2, A3; D3 > D1*, A3	31` > `32`; A12 > A11; A32 > A31*; D11 > D12*; D21 > D22
	2	2008–2012	0,6	1,2	1,5	2,1	1,9	2,1	2,7	`3` < all; A3 > (A2 > A1*); D1> A1, A2; D2 > A2; D3 >D1, D2, A3*	

The questioning of students showed the following:

1. In both regarded periods of time, for all 8 main positive personality changes, the growth of points for all SHG students, who were trained by HIP program, is significantly higher than for RHS of the same period of time. In 2001-2004 the growth of six positive personality changes (except activity and communicability) and in 2008-2012 of seven (except communicability) of SHG students after the second year of in-class training by HIP program is much higher than the same of RHS of the 3rd year of study.

Mean value of points' growth of all eight positive personality changes of SNG students, who were trained by HIP program, increased as a trend already after the first year of training, in 2001-2004, and became much higher than the same of RHS of the 3rd year of study in 2008-2012.

We can surely say that positive that positive development of personalities' of students, who attended in-class HIP trainings, progresses more successfully than the development of RHS personalities, who did not pass such training.

2. Both in 2001-2004 and in 2008-2012 the data of A3 group are much better than the data of group A1 or both other groups of students, who attended in class HIP trainings, for all positive personality's changes. Mean results of all personality's changes of students' groups, who were trained during one, two or three years (A1, A2, A3) is successively and significantly growing in 2001-2004 and is growing as a trend in 2008-2012 after the first year of study. We can conclude that positive personality's changes of students, who attended in class HIP trainings, are growing with the growth of period of training.

3. Both in 2001-2004 and in 2008-2012 for all eight positive personality's qualities, the growth of mark points

of SHG students, who fulfilled HT, is much higher than of RHS of the 3rd year of study.

This permits to make conclusion that positive personality development of SHG students, who fulfilled HT, was more intensive than the development of students, who attended in-class HIP trainings or physical culture trainings for RHS.

4. Both in 2001-2004 and in 2008-2012 the data of points' growth for main positive personality changes of D1 students are either equal the data of group A3 or are significantly higher than the data of group A3 or A2. Mean values of all eight personality's changes for groups D1 of both periods of time are much higher then the same of groups A2, and insignificantly differ from the data of groups A3.

It means that personality development of students, who fulfilled HT HIP during one year, is significantly higher than the same of the students, who attended in-class HIP trainings during two years and is very close to personality changes of those, who attended in-class HIP trainings during three years. I.e., those, who fulfilled HT show quicker positive personality's development, than the students, who attended in-class HIP trainings (and still more higher than of RHS of the 3rd year of students).

5. Comparison of data for 2001-2004 and 2008-2012 witnesses that:

1) there is negative dynamics of points' growth of positive qualities' development of 3rd year RHS;

2) development points' growth of five from eight positive personality's qualities (except successfulness, self confidence and activity) of SHG students, who attended in class HIP trainings, and in 2008-2012 after one or three years of training (groups A1 and A3) is much higher than in 2001-2004, and after two years of training (group A2) the growth of points of seven personality's qualities in both periods of time differ insignificantly, while for one (activity) increased as a trend in last years;

3) in 2008-2012 the growth of successfulness points of A3 students was significantly lower and the growth of self confidence points was as trend lower than in 2001-2004. These two indicators of personal development are interconnected. It can be assumed that if at HIP trainings to pay more attention to development of self confidence and positive attitude to own self, the students' successfulness will also grow;

4) in 2008-2012 there is reduction of indicators of personal development of SHG students, who fulfilled HT HIP during one or two years: mean value of pints' growth of groups D1 и D2 is much lower than this indicator was in 2001-2004 for three positive qualities of personality: successfulness, emotional stability and tolerance. This fact shall be stipulated in training complex for HT for SHG students, i.e. it is necessary to stipulate more efficient exercises for development of these students' qualities.

Summary

1. SHG students, who were trained by program of health improving practical training on the base of Tsi Gun gymnastics, have positive personality changes. The intensity of these changes is much higher than the same of RHS, who were trained in main groups of physical culture.

2. The level of students' personality positive qualities is growing with the increasing of period of their training by practical training's program.

3. Effectiveness of in-class training by practical training's program increased in 2008-2012 in comparison with 2001-2004. Intensity of students' positive personality's changes, who were trained by practical training's program out-of-class, reduced in the second year of training, in 2008-2012 in comparison with 2001-2004, however it remained still higher than the same of the students, who were trained in main group by usual physical culture program.

4. Any HIP training on the base of Tsi Gun gymnastics is an important factor of personality's development of students with health problems.

5. In order to increase effectiveness of in-class training of students by HIP program, for the development of their personalities, it is necessary at HIP trainings to pay more attention to development of self confidence and positive attitude to their own selves. For increasing of out-of-class students' training by HIP program, for development of personality it is necessary to stipulate in HT complex for SHG students more effective exercises for development of successfulness, emotional stability and tolerance.

Small sizes of samples of 3rd year students did not permit to obtain significant correlations between indicators of personality development of these and other students. Concerning students of the 3rd year of study the formulated above conclusions are preliminary. We have found directions, in which it is necessary to perfect HIP. It is necessary ti make the necessary corrections of training processes of in-class and out-of-class HIP trainings and carry out questionings of students in the nearest 1-2 years, in order to check up the efficiency of these corrections. Increasing of sample sizes for different groups will permit to obtain statistically more confident results.

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INTEGRATION OF PHYSICAL AND SPIRITUAL RECREATION OF YOUTH IN THE SOCIO-EDUCATIONAL ANIMATION

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Annotation. Purpose - to reveal the possibilities of physical and spiritual recreation by combining them in the process of socio-educational animation. It examines the conceptual apparatus, which is the basis of development of methodology for the study of the recreational potential of the animation. Investigated the social and educational value of the integration of physical and spiritual recreation during the implementation of the animation activity among young people. The paper summarizes the current trends of social and pedagogical aspects of physical recreation. We consider the interpretation of the essence of the animation, which is to enhance the personality of its involvement in activities account recreational and educational opportunities animation. Defended the idea that the physical recovery - the basis of social optimism and social creativity. Settles integrated approach to social and educational animations to enhance the physical and social activity of the young man, the prevention of social passivity. Provides advanced methods and forms of recreation during the implementation of the animation business. It is proposed to use intensively games, theatrical performances, tourist travel, sports event.
Keywords: recreation, physical recreation, youth, animation, social, educational animation, integration.

Introduction

As far as tensed, dynamic life activity of modern people puts forward new requirements to compensation and recreation of the lost physical, psychic and mental forces, new effective mechanisms of replenishment and improvement of required personal and social human potential shall be developed. The absence of personality's recreation system can result in both: losing of health, psychic disorders and social aberrations. Nowadays, complex process, which in wide sense is called recreation, must be scientifically grounded and organized, considering interdisciplinary approach. Recreation is substantially researched in different scientific branches (theory of physical culture, recreology, balneology, social psychology, culturology, medicine and so on). At the same time, it is worth to pay attention to a certain spectrum of pedagogical, in particular social-pedagogical aspects of recreation's organization and formation of human's responsible attitude to physical and mental self-perfection. It is known, for example, that physical education is an integral component of harmonic development of personality, but responsible attitude to own health as to social value is formed in the process of social education, in particular including recreational measures. Image of correct labor and leisure modes, in particular to achieve effective physical recreation, must have been being embedded since childhood, in the process of labor education, but to day such phenomena as "office syndrome", workaholism" are widely spread and they result in professional deformations and addictive behavior, prevention from which is the task of social-pedagogic activity.

Even several examples make to find contact points of recreation, as many side phenomenon, with social pedagogic, which is responsible for social development of social subjects. So, in certain conditions integration of physical and mental recreation can become the necessary tool of personality's self-development, of overcoming social troubles, mean of prevention from and corrections of deviations in social environment. It is undoubted that such difficult task must be solved with innovative means, which include social-pedagogic animation.

The present work has been fulfilled as per topic plan of scientific & research works of social pedagogic department of Kharkiv state academy of culture.

Purpose, tasks of the work, material and methods

The purpose of the work is determination of ways to integrating of physical and mental aspects of recreational process and social0pedagogic animation, which is a mechanism of personality's recreation's activation and facilitates development of contemporary youth's reasonable attitude to own health and social activity, promotes overcoming of social troubles, connected with this age category. In this connection the following tasks have been formulated:

1. Study of scientific sources, concerning recreational problems, animation activity with youth, social pedagogic as a scientific branch;
2. Description of social-pedagogic animation's specificity as a mechanism of integrating of physical and social perfection of personality;
3. Determination of main directions of integration of physical and mental recreation in the process of social-pedagogical animation activity;

In order to achieve the purpose and to solve the tasks we used results of researches of scientists in different scientific branches, monographs, publications, analysis of literature sources, own researches of the problems of recreational potential of animation activity and the results of social pedagogic activity with youth with application of animation means.

Results of the researches

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The idea that personality must recreate and harmonically develop on this base is undoubted. Affirmation that person, as a bio-psycho-social being, can not recreate and self-perfect by parts is also appropriate. That is why individual needs recreation as a complex process, which includes physical, psychological and social components. Concept "recreation" (from Latin "recreatio") is regarded in context of different scientific researches [1, 4, 7, 8, 10, 14] and in generalized state, concerning personality, it means the process of replenishment of physical, intellectual and emotional forces. It should be noted that exactly such comprehensive approach works in social-pedagogic aspect, because, if a person combines physical and mental recreation, his (her) life activity is harmonious and oriented on further social self-realization.

Recreation has its roots in the sources of person's self consciousness as a social being, which must perfect physically, be able to fulfill uneasy work and recreate after it. Since ancient time recreation elements have been being a part of rituals, festivals, ceremonies, which became the elements of social education. The apogee, in this sense, was epoch of Antiquity, when integrity of physical perfection and mental level of free citizens took the first place in the process of harmonization of human existence. Exactly this period is an evidence of the fact that there is no sense in dividing of these processes. We can add that exactly in antiquity time, in conditions of democratization of social relations, the system of social education activated and wide sphere of leisure (thermae, Olympic Games, theater festivals and so on) was a component of it.

The researchers of physical recreation [4, 7, 8, 14] give their functions (medical-biological, social-educative, social-economical) that make possible to deepen its understanding as the base of mental-social personality's development. An important characteristic of recreation process is satisfaction of personality's demands in changing of kinds of activity, active rest; person enjoys motion activity. Such motivation-emotional aspect of recreation connects it with animation, in particular in the sphere of leisure.

Analyzing foreign models of leisure, V. Dulikov attracts attention to the fact that "in foreign knowledge of leisure two main concepts are used: "leisure" and "recreation". With it concept "leisure" has mainly commercial-entertainment sense, while concept "recreation" has social sense, i.e. non commercial character and is oriented on socially valuable aims"[6]. We support the idea of the author, which permits to regard the process of recreation in wide aspect and reveal its social-pedagogic value.

M. Garanin marks out recreational animation as separate direction of tourism and determines it as a branch of leisure activity, which is oriented on recreation of mental and physical forces of a person [5]. With such understanding recreation is regarded rather limited, but nevertheless, there is connection between possibilities of physical and mental potential' activation of a person.

V. Kirsanov, developing functional model of leisure as an object of pedagogic diagnostics, supports the idea about its marking out as the main recreational function of leisure, because from the point of view of production, recreation is a reproduction of a person as a working resource; from the point of view of separate individual – promotion of rest, health improvement, realization of personal demands and interests [9, pg. 43]. Author attracts attention to the fact that recreational problems are studied in the context of such branches of medicine and psychology as psycho-hygiene (concerning labor, study, mental activity), art therapy (music therapy, choreo-therapy, biblio-therapy, color-therapy) natural therapy (phyto-therapy, talasso-therapy, crystal-therapy, aroma therapy). In contrast to therapy, recreation practice has aim to optimize natural mode of human life in social, cultural, economical and political aspects, because it determines person's self-feeling and workability [9, pg. 52]. Thus, integration of personality's recreation components, in particular in physical and mental contexts is underlined.

Modern social pedagogic searches the ways of personality's individual and social development harmonization with society and that is why pays special attention to responsibility of the person for his (her) own physical and social development, which is a component of general development of nation. The search of integration mechanisms leads to new phenomenon in modern social pedagogic – animation activity. We shall use concept "animation" (from Latin "animation" – revival), which means the process, connected with activation and humanization of social life in all its variety, stimulation of personality to self-development through different kinds of activity, particularly through motion, playing, art. Before characterizing main directions of its realization we consider it would be necessary to render own scientific position concerning the essence of social-pedagogic animation and its connection with recreation.

Traditionally it is considered that animation "was born" in leisure, i.e. in activity during free time, which was oriented on satisfaction of personality's demands. The main signs of leisure are voluntary choice, absence of strict regulation, value of the chosen activity. From the main functions of leisure activity, videlicet, entertaining, developing, recreational the latter is an object of our analysis. That is, obvious connection of animation, as a branch of leisure, and recreation, as its function.

Leisure includes different kinds of self-realization, which (in incomplete list) we shall call in the order of ascending personality's social activity in this process: reading, cinema going, computer games, discotheque, collecting, journeys, tourism, sports, amateur arts, volunteering. It can be seen that in certain scope, recreational potential is present nearly in every kind of leisure and social-educative orientation can be different by its intensity. So, in social-pedagogic aspect combination of animation and recreation will have socially positive character.

Leading Ukrainian social pedagogues (I.Zvereva, O.Bezpalko) in researching social-pedagogic activity, particularly in territorial communities, affirm the necessity of animations' implementation. I. Zvereva offers to apply animation (social) as a kind of social pedagogue's activity in cultural-leisure direction (together with organization of family-neighbours' centers, cultural educative work at the place of residence, physical culture – health improving rest)

[16]. In our opinion social animation covers more problems than leisure, but health improving rest is recreational by its essence. As far as every personality shall be responsible for own physical and psychic state, possibility to interact with other people in the sphere of recreation, high social importance of recreational process permits to regard it as a sphere of animation activity's application in social-pedagogic aspect.

We think it is necessary to determine age peculiarities and specificity of social development of youth, which influence on the level and quality of recreation. Traditionally youth is defined by age signs. They are citizens of Ukraine of the age from 15 to 28 years old (as per terminology of Organization of United Nations and World Health Protection organization – person of the age from 15 to 24 years old) [12, pg. 149]. We provide, in our opinion, the most complete definition, which reflects essential characteristics of youth. Youth is "social-demographic group, which is distinguished by a combination of age characteristics, peculiarities of social status and by social-psychological features, which are conditioned by the first and the second. Young age, as certain phase, as a stage of life cycle – is biologically universal, but its age limits and connected with it social-psychological features have social historical origin and depend on social system, culture, laws of socialization, which are intrinsic to certain society" [17, pg. 32]. It is obvious that youth is characterized not only by biological and age signs, but also by social potential, which can be realized by young people, by activation of social development and professional self-determination. Exactly young people, in our opinion, have desire to make life more variable, to manifest physical activity, to be joint to new cultural values, to render positive influence on other people. All these possibilities can be realized through recreation in the process of animation activity.

At the same time it is necessary to consider actualizing of youth's problems: losing of ideals, life optimism, increase of anxiety that is connected with reduction of level and life quality in society; unequal opportunities in obtaining education; increase of unemployment among youth; significant economical dependence on parents; crisis phenomena in marriage-family relations (high level of divorces, family conflicts, limited opportunities for improvement of residential conditions); low level of general culture of young people, insufficient state of health, increase of social aberrations' level (crimes, alcoholism, drug-dependence, prostitution) [3, pg. 81]. So, organization of youth's life activity through integration of physical and mental recreation shall consider possibility of overcoming of youth's problems through self activation and organization of animation as mechanism of positive pro-social potential's awakening.

Animation as social pedagogic phenomenon has own characteristics – promotion of interaction, revival, consolidating character, manifestation of motivated subjective personality, revelation of hidden positive potential, direct participation of a person, stimulation of initiative and activity. In the sphere of leisure own specificity is added to the above mentioned, and it is conditioned by the specificity of this sphere: free choice of activity, value of this activity, absence of strict regulation, realization of all functions, in particular recreational, in complex.

Basing on the above said we can affirm that at the present stage "animation activity" has come out of the limits of leisure, and it permits it to obtain new features, which, in particular, concern recreational function of leisure. We support the idea that animation is an indicator of quality of social being – sound, revived, creative, but without physical, psychic, mental health social development will not be complete.

So, social-pedagogic animation is a direction of social-pedagogic activity, which has aim to awaken, revive and activate (resulted in self-activation) purely human essential physical and mental potentials of social subjects, and as a result, their inspiration for productive social life, social activity and harmonization of social relations, in particular, social self-education. In our opinion, such interpretation, envisages combination of physical and mental recreations, that conditions organization of activity, considering the following ideas.

The first – realization of social-pedagogic animation is carried out in compliance with the essence of social pedagogic as science (social development of social subjects, introducing in society, pedagogic character of environment), but undoubtedly considering specificity of personality's development as bio-psycho-social being, who requires recreation.

The second, social-pedagogic animation is transposed with general peculiarities of social-pedagogical activity (its object is a human being during all life, realization is carried out in different spheres of social reality, it has advanced character, promotes creating social-educative mechanism, that conditions social self-development) but to a certain extent priority belongs to recreational tasks (for example when there is a threat to lose health, or there is necessity of complex rehabilitation with recreation as its leading element).

The third – specificity of social-pedagogic animation's fulfillment considers peculiarities of the sphere, in which it is realized (leisure, production, education etc.), but the presence of recreational component conditions the choice of its implementation's forms.

The fourth – the main demand of animation's realization is observation of leading signs and principles: direct participation of social subjects, active position of participants, emotional-creative orientation, respect to every personality, empathy and acceptance, positive enthusiasm, orientation on perfection of social space of different levels and other, which, in general, will facilitate realization of recreational component.

The fifth – during realization of animation in the sphere of leisure the qualitative characteristics of the latter (voluntary character, interest, recreation orientation, entertaining character) are considered as well as possibility of realization mainly in active group work with social subjects; as far as main principle of recreation as compensating sphere is alternating of different kinds of activity, then during creating of social-pedagogical animation programs this task shall be considered.

The given above scientific items permit to combine physical and mental recreations in one integrity, that will be expressed in appropriate forms of realization. The main for social-pedagogical animation is its aim, which shall be directed to realization of social education tasks, specifically, development of health culture, formation of healthy life style, prevention from social aberrations, from addictive behavior and so on.

So, if for physical recreation it is important to provide animation through motion, games, physical activity, mobile kinds of art, tourism, and for mental recreation - communication,, assistance, empathy involvement, social optimism than integration gives possibility to use combined forms of social pedagogical animation: social quest, active tourist routes, sports-entertaining contests, theatrelizing of insufficient motion activity's problems, flesh-mobs oriented on popularizing of physical culture and other.

Summary

1. Physical and mental recreation can be integrated during planning and realization of social-pedagogical animation as a direction of social-pedagogic activity. Such integration will make possible intensification of further personal and social development of youth.

2. Social-pedagogic animation – direction of social pedagogical activity, whose aim is revival, awakening and activation (self-activation as a result), of purely human essential physical and mental potentials of social subjects, which will result in inspiration of fruitful social life, social creativity, harmonization of social relations and social education in particular. Such interpretation implies combination of physical and mental recreation.

3. In the process of animation activity's fulfillment complex methods of activation of contemporary youth for physical activity and social creativity are used. Non-forced character of animation shall motivate representatives of new generation for responsible attitude towards own physical health as basic element of fruitful personal and social development. Because who stake on youth's health take care of the health of society.

The prospects of the researches are further development of methodological and methodic principles of social-pedagogic animation, considering its recreation opportunities. It is envisaged to develop, to realize and evaluate efficiency of social-pedagogical programs of animation in the sphere of youth's leisure. Particularly, it is stipulated to search strategy of new generation's motivating for activity in social environment in order to achieve health improvement of rising generation and facilitate its physical and mental perfection.

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METHOD OF TECHNICAL TRAINING OF FOOTBALL PLAYERS DURING PRE-BASIC TRAINING

Matyas V.V.

Annotation. The question of technical training football players is considered. Revealed that the percentage of defects in the performance of technical elements of a good at football players of different ages. In the main experiment participated 44 players. The study used data from testing of technical training young players 10-11 years. It was revealed that the curricula of different authors (except the French) offer to study each technique separately in different sequences. The technique of technical training in the annual cycle during the pre-basic training, taking into account the sequence of techniques. Found that the ratio error decreased from 42 (90%) and 14 (58%). It is shown that in-depth training players 10-11 years are characterized by combining several techniques. A significant improvement in the technical readiness of young players.

Keywords: technology, training, players, technique.

Introduction

Multi year training of junior players is regarded as an integral component of all system of sportsmen's training, it subordinates to appropriate laws, including orientation on the highest achievements [3,5] .

Leading coaches and specialists in football remark that technical preparedness of JSSs' leavers in football is insufficient and significantly yields to increased requirements of up-to-date football. Many of sports schools' leavers, who were invited in teams of masters, are far from technical skillfulness level of masters' team players [1,2, 9,10].

Many scientists, such as: [4,5,6,7,8] dealt with the problem of improvement of junior football players' technical preparedness, but still there is quite insufficient quantity of works, devoted to improvement of technical preparation process of 10-11 years old football players at the stage of preliminary basic preparation; that is why this subject is an urgent one.

The work has been fulfilled as per plan of scientific & research works of Dniepropietrovsk state institute of physical culture and sports.

Purpose, tasks of the work, material and methods

The purpose of the work is to work out and experimentally ground methodic of technical preparation in annual cycle at the stage of preliminary basic training, considering improvement of techniques sequence as well as their combination with advanced training of 10-11 years old football players.

The methods and organization of the research: in the present work the following research methods have been used: analysis and generalization of literature sources; sociological questioning, pedagogical observation (evaluation of efficiency of football players' competition activity by analyzing of statistic records of matches); pedagogical testing; studying of psycho physiological indicators, pedagogical experiment, methods of mathematical statistics. The research was carried out on the base of JSS, SJSGD (sports junior school of general development) and comprehensive secondary school No 73 of Dniepropietrovsk, with children of 10-11 years old age. In main experiment 44 football players of experimental (22 sportsmen) and control (22 sportsmen) groups took part. Experiment took 1 year, from September 2010 to August 2011. After finishing of the experiment the children of both groups were repeatedly tested. In the experiment, control group was trained as per JSS program for the group of primary preparation of fifth year of training. Experimental group was trained by the program, which was worked out by us.

Results of the researches

The offered methodic was realized on the base of didactic and specific principles (the part of which is stipulated by JSS program): scientific approach, systemic character, sequence, conscious attitude toward trainings, activity, independence, using of visual aids,, accessibility, individualization; variety and novelty, orientation on reaching the highest results, correlation of time norms in different trainings in general day schedule of junior sportsman, gradual increase of loads during year, integrity of general and special preparation, optimization of correlation of training means during year.

The methodic, which was worked out by us for technical training of experimental group, considered results of preliminary study, that in sportsmen's competition activity, at different stages of multi-year training the most frequent mistakes occurred with combining of such techniques as dribbling – pass, dribbling – dodging-kick, dribbling stopping of ball, pass – stopping of ball – pass, pass – kick, play by head – headings, taking ball off-pass, feints – pass, throws-in from behind side line.

The main approaches in the offered technical training were:

- re-distribution of hours' correlation and training content in every month of annual cycle (with preservation of total annual quantity of hours);
- gradual increase of training time (during September-October – 3 training days a week, in November – March – 4 training days a week, in April-May – 5 training days a week, in June – August – 6 training days a week);
- the developed by us sequence implies training of techniques not only separately, but as well as the combinations of several techniques, which are to be fulfilled during match as integral complex, that permit to master

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them quicker and better. Besides, we considered technical mistakes in their interconnections, i.e. after wrong pass usually wrong taking of ball follows, bad taking of ball results in bad dribbling, dodging or kick, i.e., during match nearly all elements are to be fulfilled continuously and most mistakes are made just with passing from one action to other;

- innovative approaches to planning and application of physical exercises, which are used in technical training of junior football players (working out of training blocks).

The peculiarity of our methodic was working out of training blocks for technical preparation with application of:

- training blocks for junior football players' mastering of the following techniques' combinations: dribbling-pass; dribbling-dodging-kick; pass-taking of ball- pass; play by head-headings-taking ball off-dribbling; dribbling-feints; stopping of ball-kick; throw ball in from behind side line;
- training blocks for development of psycho-motor qualities (RAM, quickness of motor response, response for moving object and so on);
- outdoor games for consolidation of techniques' and their combination's mastering;
- outdoor games for conjugated consolidation of techniques and development of physical qualities.

In conditions of pedagogical experiment it was established that there is statistic interconnection between results of technical preparedness and special physical qualities at weak (r=0,32-0,48 with p <0,05), middle (r = 0,50 - 0,69 with p <0,01) and strong levels (r=0,070-0,86 with p <0,01).

It was found that in experimental group the technical level of game by the tests of JSS program is confidently higher than in control one and it is witnessed by the calculated Student's t (t=5,810-11,222), that shows the efficiency of application of training blocks in technical preparation. Results of the research of control and experimental groups (with p<0,05-0,001) witness about statistically significant differences between indicators of technical preparedness (see table 1).

Table 1

Indicators of 10-11 years old junior football players of control and experimental groups before and after experiment

Control test	Stage of experiment	Indicators							
		$\overline{x}$		± S		V %		p	
		CG	EG	CG	EG	CG	EG	CG	EG
Kick for distance (m)	before	22,90	24,80	3,89	3,57	18,80	14,40	> 0,05 1,353	<0,01 5,810
	p > 0,05 (t=1,92)								
	after	29,60	36,70	4,80	3,18	21,60	11,50		
	p < 0,05 (t=4,23)								
Throw ball in from behind side line (m)	before	9,80	10,80	1,90	1,49	20,90	13,80	>0,05 1,684	<0,01 7,805
	p > 0,05 (t=2,11)								
	after	10,2	12,70	1,30	1,43	14,60	11,20		
	p < 0,05 (t=6,45)								
Dodging of stands for quickness (sec.)	before	20,60	19,90	2,80	2,23	12,20	11,20	>0,05 1,423	<0,01 8,322
	p > 0,05 (t=1,85)								
	after	19,90	18,40	2,60	2,19	11,60	11,70		
	p< 0,001 (t=2,55)								
Complex with ball (sec.)	before	7,80	8,00	1,20	0,90	16,40	11,30	>0,05 0,998	<0,01 9,701
	p> 0,05 (t=1,81)								
	after	7,50	6,80	0,77	0,74	11,80	12,80		
	p< 0,05 (t=2,22)								
Juggling (the quantity of strikes of ball)	before	18,7	21,1	13,6	12,8	72,6	60,7	<0,05 2,652	<0,01 10,33
	p > 0,05 (t=0,55)								
	after	22,9	31,20	16,90	15,50	62,90	53,10		
	p < 0,05 (t=4,43)								
30 m run with dribbling (sec.)	before	6,16	6,04	0,50	0,34	7,96	5,70	<0,05 4,141	<0,01 11,22
	p > 0,05 (t=1,73)								
	after	6,03	5,76	0,55	1,00	9,40	17,50		
	p < 0,05 (t=2,23)								

In experimental group results of tests (dodging of stands for quickness, complex with ball, 30 m run with dribbling) improved up to the level that is higher than normal and the results of tests (kicks the ball for distance, throw

ball in from behind side line, juggling) increased up to norm level. Control group's indicators also became better but not the level higher in comparison with initial ones, that is why nearly all indicators were lower than normal, except the results of two tests, which were equal to the norm level. It should be noted that in experimental group variation coefficient substantially decreases up to 5,70-11,20% after experiment, while before trainings it was more than 60,7%. These results witness about greater homogeneity of the results than before the beginning of the experiment, In control group both before experiment (from 20,90% to 72,60%), and after experiment variation coefficient has wide range (from 21,60% to 62,90%).

Besides, it is important to note that not only time and qualitative indicators improved, but their execution became of better quality in experimental group than in control. In table 2 we present percentage of football players, who made typical mistakes in tests before and after implementation of the developed by us methodic.

Table 2

Comparison of quantity of football players, who make typical mistakes in tests before and after experiment

Typical mistakes in tests	Quantity of sportsmen (%) Before experiment		Quantity of sportsmen (%) After experiment	
	Control group	Experimental group	Control group	Experimental group
Kick ball for distance				
Direction of running does not coincide with direction of kick	40	40	45	10
Supporting leg is positioned just near ball	60	60	55	25
Supporting leg is too far from ball	40	40	40	20
Throw ball in from behind side line				
With throwing in ball was not raised behind head	60	60	70	20
Throwing in with one arm	40	40	40	30
Leg separated with ground with ball still in hands	70	65	55	40
Dodging of stands for quickness				
Dodging with head bent down	70	70	85	50
Dodging with too strong pushes of ball	70	70	70	50
Complex with ball				
Stop after every technique	80	85	70	45
Low speed of technique's fulfillment	75	75	55	35
Bad transition from one technique to other	60	55	60	20
Juggling				
Foot is too tensed when contacting the ball	80	80	60	30
30 m run with dribbling				
Dribbling with head bent down	90	90	70	45
Dribbling with too strong pushes of ball	70	70	50	20
Eye are constantly fixed an ball	50	40	45	45

During experiment we carried out purposeful work on elimination of mistakes in experimental group; we applied group and individual approach when teaching techniques and their combinations. For example: with test "complex with ball" typical mistakes of junior sportsmen were stops after every technique, low speed of techniques' fulfillment, bad transition from one technique to other.

During match such mistakes result in losing of synchronous sequence of the complex fulfillment; player, fixing attention on one technique, loses control of ball. We tried to eliminate such mistakes with the help of exercises, offered by us blocks of exercises, considering the marked out by us "accents" for correction of mistakes (see table 3).

Table 3

Analysis of mistakes of "complex with ball" test

Technical mistakes	Results of mistakes	Accents with correcting of mistakes
Stops after fulfillment of every technique	Losing of synchronous sequence of the complex fulfillment	Exercises for combination of techniques
Low speed of technique's fulfillment	Player fixes attention on one technique	Fulfillment of techniques at high speed, in hidden and sudden way
Bad transition from one technique to other	Player loses control of ball	Exercises with clear target, exercises for fulfillment of separate techniques

Thus, results of our research permitted to make conclusion of the following. As per up-to-date ideas the effective methods are those, which are close by their structure, to competition exercises and simulate the level of muscular tension and structure of the fulfilled movement adequate to competition loads at the moment of their fulfillment.

In control group we did not carried out sequential correction of mistakes and for this reason, they were not eliminated; besides defects of training also could be their reasons: mistakes in teaching of techniques' fulfillment methods, methodic mistakes of training process, development of inadequate skill, uncertainty and anxiety with fulfillment of technique, to long transition from one technique to other.

In experimental group the offered methodic of training manifested itself from positive side, comprehensively influencing on effectiveness of the fulfilled techniques. Percentage of mistakes reduced from 42-90% to14-58%, in control group - 43-85% at final testing (see table 2). In the process of training movement and improving of techniques mistakes are natural. Their timely revelation and elimination of their reasons to great extent condition efficiency of the process of football techniques' training.

Summary

Results of our researches witness that the offered methodic of training of football elements was improved at the cost of purposeful sequence in training, correct selection of warming up exercises and development of motion abilities, which are required for fulfillment of techniques. All these factors permitted to accelerate and with high quality carry out the process of training and improvement of football elements at trainings.

Thus, the obtained results witness about efficiency of the worked out methodic for junior football players, as far as efficiency of their further football activity depends on the level of their technical preparedness and their ability to carry out techniques continuously, that was completely proved by the results of our research.

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TECHNOLOGY OF FORMING A POSITIVE ATTITUDE TO PHYSICAL TRAINING STUDENTS OF SPECIAL MEDICAL GROUP

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Annotation. Defined effective technology stages of forming a positive attitude towards physical education of students in special medical groups, stimulate motivation, epistemologically, informative, content-procedural, analytical and adjustment. For each stage technology offered special tools: lectures, seminars, analysis articles, mini conference on improving technique, racing games, mini-competitions, diagnostic interviews, questionnaires, analysis of log data on attendance. Selected criteria forming positive attitudes towards physical education: theoretical and practical, formed groups for research: experimental and control, analyzed results introduction of technology, efficiency of the proposed technology and means forming a positive attitude towards physical education students in special medical groups.
Keywords: health, personality, motivation, technology, tools.

Introduction

Health is the first and the most important human demand, that determines person's ability for labor, ensures his harmonious development. It is and urgent precondition of cognition of environment, self assertion and happiness of a person. Unfortunately, application of this concept in the process of formation of special health group students' positive attitude toward physical culture training is problematic at the present stage in connection with their insufficient understanding of physical loads' positive significance. That is why development of technology of formation of positive attitude toward physical culture training has become an urgent problem. Analysis of health's level, made in works by O. Vakulenko, A. Dubogray, S, Lapayenko, l Suschenko et al. [2, 4, 5, 9, 10], permits to make conclusion that low level of youth's health has a number of certain reasons: among which there are absence of priority of health and motivation for healthy life style and culture of health; family conflicts; insufficient organization of eating in childhood, increasing of morbidity; sanitary-hygienic problems as well as dissatisfaction with organization of educational process. That is why the problem of formation of special health group students' positive attitude to physical culture training requires separate, deeper study.

The research has been fulfilled with the frames of subject "Theoretical principles and methodic conditions of development of physical and psychological potential of students" (approved by scientific council of RVNZ KIPU minutes № 6, dt. Januaru 28th, 2013)

Purpose, tasks of the work, material and methods

The purpose of the researched determination of effective stages of technology of special health groups students' positive attitude to physical culture trainings; marking out of criteria of technology's efficiency; analysis of implementation's results.

Results of researches

Motivation for formation of demand in health is stimulation of youth for action, oriented on strengthening and preservation of sound self-feeling [8]. Formation of positive attitude to physical culture trainings is a complex of influences on personality in order to create established motivation for active joining the world of physical culture.

The developed by us technology of formation of special health groups students' attitude to physical culture trainings has the following stages.

Table 1

Stages of technology of formation of special health groups students' attitude to physical culture trainings

Nos.	Stages of technology	Methods
1	Stage 1. Stimulating-motivational	Talks, discussions, mini-conferences
2	Stage 2. Gnosiologic - informative	Lectures, analysis of articles, health improving methodic
3	Stage 3. Intentional-procedural	Outdoor games, mini-competitions. Health improving exercises
4	Stage 4. Analytical-correcting	Questioning, analysis of data of register of trainings' attendance

Stimulating-motivational stage envisages stimulation of students for understanding of prerogatives of sound physical health, motivation for mastering of physical exercises training skills. The methods, used at this stage: talks, stories, analysis of problematic situations. Unfortunately, many instructors in physical training do not pay sufficient attention to this stage. The absence of established students' motivation results in passive attitude to physical culture trainings. Especially it concerns the students from special health groups, who have different complexes of diseases and do not have sufficient motivation for physical training.

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For realization of gnosiologic informative stage we organized seminars for familiarizing with basic principles of physical health, discussions of problems in order to determine the possibilities of health improvement. Alternating health improving methodic also were presented.

Main ideas of this stage rest on humanistic concepts of the past and, first of all, on those, which were presented to the world by Ancient Greece. To them philosophy of Olympics is rated and connected with it idea of honest, noble competitiveness in sportsmen's competitions at Olympic Games. They were main sports event of all times and nations. Every Olympic Games became a national festival, a certain kind of congress for governors and philosophers, contest of sculptors and poets. Olympiads ennobled people, because they reflected world vision, in which the first place was taken by cult of spirit and body perfection, idealizing of harmoniously developed person- thinker and athlete [3,7].

Intentional-procedural stage stipulated involving students in physical culture training through outdoor games, improvised "Olympic competitions" and mastering of exercises of alternating health improving methodic.

In opinion of K. Abulkhanova-Slavska, a person solves problem of arranging, comparing of objective and subjective factors of activity with the help of activity [1].

Analytical-correcting stage permitted to carry out analysis and correction of implementation's results of technology of special health group students' positive attitude to physical culture formation.

Criteria of positive attitude to physical culture trainings are theoretical and practical:

– theoretical – knowledge of history of physical culture development; hygiene and prevention from diseases, influence of harmful habits, connection of psychic state with the state of body, skill in taking care of body, in correct eating, regime of work and leisure;

– practical – skillfulness in correct fulfillment of physical exercises, understanding of significance of every exercise and how they influence on organism's state;

At concluding stage of experiment the following tasks were solved:

– studying of level of formation of positive attitude to physical culture training;

– analysis of influence of physical culture trainings' traditional organization on formation of positive attitude to them;

The stages of concluding part of experiment were as follows:

– theoretical researching – determination of theoretical material of problem's study from different aspects of philosophical, sociological, psychological and pedagogical knowledge; application of literature analysis methods, observation;

– diagnostic and problematic – selection of complex of diagnostic material, working out of questionnaires, determination of experimental and control groups, processing of results, determination of problem and tasks of research, determination of the purpose of research, formulating of hypothesis concerning the results of formation experiment;

– organizational – development of technology of positive attitude to physical culture trainings formation;

– purpose- motivated – transition period between concluding and formation stages of experiment – formation of motivation sets.

Concluding stage of experiment covered 160 students. The data of concluding experiment witness about mainly middle and low levels of formation of positive attitude to physical culture trainings. It is explained by the absence of steady motivation. There is no complex organization of educational process, the role of physical health in professional preparation is underestimated, no attention is paid to increasing of variety of active forms for formation of special health groups students' positive attitude to physical culture trainings.

At formation stage of experiment, in the process of physical culture trainings, technology of formation of special health groups' students' positive attitude to physical culture was implemented. Two groups were formed: experimental (45 students) and control (45 students).

The final stage of experiment implied generalization of current and total data of diagnostic methodic (analysis of attendance, progress at trainings and questioning), which reflect dynamic of changes of positive attitude to physical culture formation levels.

Table 2

Comparative table of levels of formation of positive attitude to physical culture by two group models before and after experiment in %.

Formation levels	Before experiment		After experiment		Increment (in %) of formation levels (FL)	
	C	E	C	E	C	E
High	8,5	8,6	9,2	29,7	0,7	21,1
Middle	24,9	24,5	25,7	48,5	0,8	24
Low	66,6	66,9	65,1	21,8	– 1,5	– 45,1

Summary

Results of the research prove that technology of formation of positive attitude to physical culture trainings is effective and necessary condition for complex development of personality, formation of integral world vision concerning healthy life style, creative realization in surrounding world.

The prospects of further researches. The presented technology has realistic opportunities of implementation at educational establishments, however adapting means of formation of positive attitude to physical culture trainings require additional development.

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COMPETITION IN THE TRAINING OF THE ATHLETES OF SPECIAL OLYMPICS

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Annotation. The aim of the study is to characterize the competition as part of the system of training athletes of Special Olympics. It was determined that the specificity of the system of training athletes of Special Olympics is to focus on the demonstration of athletic performance. Determined that the results should contribute to the achievement of social adaptation and rehabilitation of athletes. Lack of dominance purely sports-effective component and determines the specific role of competition in the training. The classification of types of competitions. Characterized by specific features of the study (teaching), training and conditional qualifiers. Identified specific characteristics of qualifying and main events in the Special Olympics. It was determined that the competitions are important for the development of athletic skills, the creation of equal opportunities for competition. It was determined that the competitions are the best means of verifying the athlete athletic skills, measuring progress and providing incentives for personal growth.
Keywords: Special Olympics, system, training, specific, competition.

Introduction

Special Olympics, which were initiated in 1968 by Mrs. Yunis Kennedy Shriver, nowadays are powerful international sports movement, recognized by IOC [3, 4, 13]. Scientific researches of Special Olympics movement's problems cover wide circle of historical (Briskin 2004, 2006, Ye.N. Prystupa 2003, 2005, I.O. Kogut 2008, O.V. Rymar 2002, Matveyev 2002), organizational (V.I. Mudrik 2001, Yu.A. Briskin 2004, S.P. Yevseyev 2007) and world vision questions [8, 11, 16, 18, 19]. While researches of nosologically determined components of athletes training's system for Special Olympics are rather fragmentary. They deal with didactic peculiarities of training of persons with mental problems [6], methodic of training of female gymnasts for Special Olympics [1, 2], skating influence on the state of athletes with mental problems [7], correction of Special Olympics training programs' content (O. Pavlos, "Control of general physical and technical preparedness of sportsmen with mental problems", / O. Pavlos // Cultura fizica : probleme stiintifice ale invatamantului si sportului : Materiale conf. st. intern. a doctoranzilor / col. red. : Danail S. [et al.] . – Ch. : Editura USEFS, 2012. – P. 252 – 256.) [14] et al..

In previous researches the concept of system of athletes' training for Special Olympics was grounded on the base of binary factor, which determined its structure and orientation: competitions, oriented on demonstration of sports results, achievement of which shall facilitate social adapting and rehabilitation of sportsmen (A.V. Perederiy, 2013). The purpose of sports training systems by programs of Special Olympics is provision of maximal possible for certain athlete level of social adapting through improvement of physical, tactical, technical, psychological preparedness by means of training and competition activity in the chosen kind (kinds) of sports.

Training system is composed of two sub systems: personified and processing. With following certain structural identity with Olympic sports, training system of Special Olympics has specific meaningful content. Personified subsystem is represented by triad: ATHLET-coach, micro-society. Processing subsystem of sportsmen training for Special Olympics combines competitions, trainings and recreation, in the process of which education, development and social adapting of athletes progress. Availability of social adapting process and specific sense of competitions are distinctive features of structure of training system of Special Olympics athletes.

The work has been fulfilled as per subject 1.4 "Theoretical-methodic principles of development of sports for disabled" of combined plan of scientific & research works in the field of physical culture and sports for 2011-2015, as per Order No.4525, dt. 20.12.2010 of Ministry of education and science, youth and sports of Ukraine.

Purpose, tasks of the work, material and methods

The purpose of the research is characteristic of competitions as a component of training system of Special Olympics athletes.

Results of the researches

Coming from the sense of sports activity, central place in processing subsystem of Special Olympics athletes' training is taken by competitions. Exactly competitions are the motive for systematic trainings. The level and significance of competitions, specificity of certain kind of sports or modified kind of competition activity determine requirements to athlete's preparedness, to the level of his physical and technical abilities. In compliance with fundamental principles of Special Olympics competitions are of great importance for development of sports skills; creation of equal possibilities for contest is the best mean of checking of sportsman's skills, of determination of progress and creation of stimulus for personal development [4, 5].

It should be noted that the role of competitions in training system of Special Olympics athletes differs substantially from their role in Olympic sports. In Special Olympics the so called non traditional model of competition activity is used, which stipulates the absence of final determination of results, registration of records, general ranging of places and general awarding of sportsmen. Realization of this model is ensured by the procedure of divisioning and is conditioned by the absence of orientation on achieving maximal possible sports results [4]. Also thesis of normative

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documents of Special Olympics is important (www.specialolympics.org), affirming that it is an organization of systematic annual trainings and participations in competitions. That is, it stresses that processes of training and competitions are integral and have one common aim – development of athlete [12]. Alongside with it, it should be underlined that it is impossible to realize completely the tasks of Special Olympics with the help of purely training means in the chosen kind (kinds) of sports.

Special Olympics put forward the following requirements to competitions, which are carried out at different levels (local, by nationally accredited programs or regional and international competitions):

1. Games and tournaments shall offer competitions (kinds of sports, special kinds of competition activity, etc.) for sportsmen of all levels of abilities. In team kinds of sports every member of team must have enough opportunity for participation in competitions.

2. Games and tournaments shall offer to every sportsman equal chances for success in competition. Every kind of competitions shall be structuralized by dividing into divisions as per the level of skillfulness (on the base of acute registration of previous results) as per age and sex.

3. Considering the importance of competitiveness, the necessity of competitions for obtaining practical experience, every program which has accreditation, shall carry out competitions periodically and sufficiently frequently. The quantity of participants and the membership of delegation are regulated by quotas. International Special Olympics have exclusive right to establish compulsory quotas, which determine general membership of delegations, sportsmen, coaches and other persons, directed by accredited program to International games and other competitions, sanctioned by International Special Olympics.

4. General rules of Special Olympics stipulate appropriate criteria of athlete's passing to higher level of competitions: local program – national games – regional games – International games. Accredited programs shall act in compliance with the established procedures of athlete's (of any level of abilities) passing to the next level of competitions within the frames of Special Olympics.

5. Competitions' rules of Special Olympics envisage special regulations of awarding of participants, which are powerful motivation and stimulation of contest. All members of division are awarded. Athletes, who took 1-3 places, are awarded with medals of certain kind, athletes, who took 4-8 places are awarded with bands of honor. Participants, who violated procedure of dividing into divisions, who were disqualified or did not finish competition, are awarded with bands of participants.

Realizing the above mentioned programs, the accredited national programs carry out sufficient quantity of competitions every year. Local programs carry out competitions on club, school, district, city or region levels. For example, in 2012 the calendar of Special Olympics of Great Britain stipulated 43 tournaments (http://www.specialolympicsgb.org.uk/). Annual calendar of official competitions of All-Ukrainian public association of disabled "Special Olympics of Ukraine" ant its branches stipulates not less than 10-12 tournaments by the most popular in the country kinds of sports (track and fields, football, basketball, ski racing and so on) and international competitions as per calendar of international Special Olympics *(*www.specialolympics.org.ua/ *).* Increase of quantity of competitions on all levels is one of the most important tasks of Special Olympics' movement. In general, 50 000 competitions are carried out annually in the movement of Special Olympics, that in average is 136 competitions a day by different nationally accredited programs (www.specialolympics.org). Results of international questioning of Special Olympics witness that 2-4 times participations of an athlete in competitions during a year is compulsory. The best sports and adapting effect is achieved by athletes, who took part in competitions 5-8 times during year. At the same time, training system of athletes for Special Olympics lacks of clear differentiation of competitions by purpose and tasks, as it exists in Olympic sports (preparatory, control, selective, model, main competitions) [9, 15].

In our opinion Special Olympics shall envisage familiarizing (training) competitions. Training competitions are competitions, which are carried out within the frames of mandatory basic training programs (approximately in 6^{th} and 8^{th} weeks of training program) and are used for familiarizing with rules and conditions of competitions, norms of participants' behavior, procedure of determination of results, safety measures, distribution of duties between members of team in out door games and partners' competitions, etc. [5, 10, 17]. Such competitions shall be conducted between members of one team (schools) or with sportsmen of other school. They shall be conducted in friendly, usual atmosphere.

Most of competitions, in which athletes of Special Olympics take part, have double purpose. From the point of view of subjective (personality) oriented purpose they are main competitions, because every participant wishes to open his potential in the best way and show maximally possible for him result. At the same time, from position of process – oriented purpose – they are preparatory competitions, because, independent on the level of competition and results, achieved in them, in compliance with principles of Special Olympics, exactly competitions the most effectively realize the main purpose of activity – improvement and demonstration of skills, knowledge and talents of athletes, development of their abilities and skills.

Also it is purposeful to mark out one more kind of competition – relatively-selective. As it is known, selective competitions are carried out in order to determine membership of combined teams, to select sportsmen for competitions of higher level. Distinctive feature of such competitions is conditions of selection: winning of certain place or fulfillment of control normative, permitting to take part in main competitions. Selective character can be intrinsic either to official or to specially organized competitions. Relative character of such competitions comes from the norm of Special Olympics concerning quantitative quotas of participants (athletes or teams) of competitions of the highest rank.

The necessary and effective procedure of dividing into divisions naturally increases quantity of winners and prize winners, who become candidates to participation in competitions of the highest rank. According to rules of Special Olympics, if quantity of divisions and, consequently, the quantity of winners exceeds the quota, membership of team is determined by draw ceremony. Thus, achievement of certain result or place does not guarantee the membership in combined team.

Besides, in Special Olympics, competitions can be divided into qualifying and main. Qualifying competitions cover the procedure of dividing into divisions. Depending on specific of a kind of sports and the mean of winners' determination there are different approaches to the procedure of dividing into divisions. In all kinds of sports with objectively measured results in qualifying competitions (with divisioning) sportsmen fulfill general exercises. Indicators of participants are registered and evaluated by descending. As it is known, according to principle of equality, difference of sports indicators between the best and the worst sportsmen of one division shall not exceed 10 % (15 % if it is impossible to ensure 10%) [3]. Principle peculiarity of qualifying competitions in other, by means of results' determination competitions, is the fact that sportsmen fulfill separate parts of general exercises but not all general exercise. Teams-adversaries are determined by indicators, which are submitted together with registration documents. Thus, in team competitions distribution by the level of skillfulness is carried out with the help of team indicators and (or) results of qualifying competitions.

For example in competitions in nosologically-determined kind of sports – hockey on floor – the following rules of qualifying competitions were accepted [17]. Competition is conducted in two stages. The first stage stipulates conducting of competition in individual skillfulness of sportsmen and team. In hockey on floor the following tests are used for this purpose: throws to goals, passes, dribbling, throws for accuracy, defense.

Total result is determined as the sum of results in every of five kinds of program. The record of competition in individual skillfulness is submitted to referees' board of competitions of the highest rank, which, on the base of these results, preliminary forms divisions according to rule 10% (15%). It is necessary to underline that on any level of competitions (school, district, city etc.) this stage is preliminary, final formation of divisions is carried out by qualifying committee on the next stage of competition. On this stage qualifying committee review qualifying matches of duration less than 6 minutes,, which were played by circular system in one or other previously formed division. In this matches every team must ensure participation of all players of team, whose results were submitted in the record of competitions for individual skillfulness. Qualification committee takes the following decisions:

- certain team corresponds to the game of the given division by its preparedness;
- certain team does not corresponds to the game of the given division by its preparedness and is transferred to the lower division;
- certain team does not corresponds to the game of the given division by its preparedness and is transferred to one or other higher division;

After final distribution into divisions, in every of them main competitions are conducted by circular system.

The same approaches are used in football competitions. Teams can be divided into divisions as per evaluation of team skills, which are submitted before the beginning of competitions. This complex evaluation includes results of all team players from the following tests: dribbling, control of ball and pass, goal throw. Results of every player, obtained from these tests, shall be submitted to the representatives of organization committee of highest rank competitions by all teams. The tests for evaluation of team skills were developed to have preliminary idea about teams' level, which will participate in competitions and it will permit for organizers to form preliminary divisions for participation in qualifying round of competitions. These tests are used as a supplement when conducting qualifying matches.

In basketball competitions the following procedure of preparation and conducting of qualifying competitions is adopted. Before competitions chief coach must submit results of three tests of evaluation of every basketball player's skills in appropriate form: pick up of ball, dribbling, throws in basket. The tests are used only for evaluation of players/teams but they are not kinds of program, admitting awarding with medals or bands.

Chief coach also must determine five best players of his team as per game-on-site criterion and mark their names in general list of team. Team result is evaluated by adding of seven best players' results, followed by dividing of sum by 7. First, teams are grouped into divisions according to team results after evaluating tests for basketball skills. Qualifying round of games is conducted in order to complete the process of dividing into divisions. Within the frames of qualifying round, teams must play one or more games, with duration of every game not less than six minutes. All members of team must take part in game.

Rule 10% is not used in kinds of sports that require evaluation by referees (figure skating, diving, horse racing, etc.), but dividing into divisions is carried out according to the level of sportsmen's skillfulness, that also is determined in qualifying competitions. Referees' board determines sportsmen's rating and forms division on the base of evaluation of competition compositions' fragments or separate general exercises.

All other competitions are conducted as main, i.e. with determination of winners, prize-winners and sportsmen, who took places from 4^{th} to 8^{th} in certain division. It is important that results, which were demonstrated by athletes in qualifying competitions, would be not less than by 10 % (15 %) from the results of main competitions. Bigger difference in results of qualifying and main competitions (in favor of the latter) can witness about manipulations with divisioning and result in disqualification of athlete. In this case all responsibility for canceling of competitions' results is laid on coach.

Summary

1. Competitions in training system of Special Olympics' athletes, in opposite to other directions of adapting sports in Olympic movement, are characterized by the absence of activity aimed to achievement of maximal possible results. In compliance with philosophical principles of Special Olympics movement, competitions are of great importance in development of sports skills, creating of equal opportunities for contest and are the best mean of testing athlete's sports skills, determination of his progress and personal development.

2. In training system of Special Olympics' athletes there are marked out the following competitions: familiarizing (training), preparatory with process-oriented aim and relatively selective. Also competitions of Special Olympics can be classified as qualifying and main.

The prospects of further researches are connected with characterizing of other components of training system: personification subsystem, training and recreation as components of process subsystem.

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ANALYSIS OF AN APPLICATION DEGREE OF MARKETING IN ORGANIZATION AND MANAGEMENT ACTIVITY OF YOUTH SPORTS SCHOOLS

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Annotation. Disclosed aspects of the marketing approach in the activities of youth sports schools. The degree of use of marketing in the organization and management of youth sports schools. Identified constraints and the possible consequences of the use of marketing in youth sports schools. The study involved 127 employees with 15 youth sports schools. The respondents were the director and deputy instructor methodists that senior coaches offices youth sports schools. It is certain that in their professional activities only 36.0% of workers in youth sports schools use marketing is the marketing research, 73.2% of respondents believe that the use of marketing to promote the image of youth sports schools. The absence of a marketing specialist in the management bodies of physical education and sport is one of the main problems for the efficient functioning of the market of sports schools sports and sports services.
Keywords: marketing, market, school sports.

Introduction

In modern conditions of development of any sphere of human and society's life activity, effectiveness of work depends on application of innovative approaches in management activity. From this point of view, we consider to be purposeful to offer marketing approach to managing of junior sports schools (JSS) and implementation of marketing researches in their activity. The system of physical culture and, specifically, its sub system of junior sports require theoretical and practical grounding of marketing application in organization and management of JSS activity in order to rationalize their established functioning and optimization of sportsmen's training.

Generalization of theoretical experience of foreign and domestic scientists permits to mark out two main items, which completely discover the essence of concept "marketing". One of them is interpreted as an art and a science to chose correctly target market, attract, maintain and increase the quantity of consumers of physical culture services with the help of orientation on satisfaction of all consumers' demands as well as arranging and targeting of the process at understanding of consumers' problems and monitoring of market activity [1,9,10]. The other sense of marketing is defined as complex system of sports services' market investigation and control of their rendering, which are oriented on obtaining of social effect or satisfaction of consumers' demands [2,3,8].

In the works by G.M. Putiatina [6], V.V. Tomashevskiy, O.O. Petrova [5], D.O. Perepliotchikov [4] attention is attracted to the review of existing management activity of physical culture and sports organizations and to implementation of innovative approaches: program-targeted, quality-metering and marketing. We offer to use marketing in activity of non commercial physical culture and sports organizations – JSS, for obtaining of social economic effect. Up to the present time this has not been proposed.

The work has been fulfilled as per combined plan of scientific & research work in the field of physical culture and sports of Ukraine for 2011-2015, by subject 1.7. "Theoretical-methodological and applied aspects of application of innovative technologies in sports management".

Purpose, tasks and methods of research

The purpose of the research is characterizing of marketing's application in organization-management activity of JSS.

The tasks.

1. Characterize the state of marketing's application in professional activity of JSS workers.
2. Determination of directions of marketing approach to organization and marketing activity of JSS.

The methods of the research: analysis of literature sources and documents, questioning, methods of mathematical statistics.

Headmasters, their deputies in educational work, instructors, senior coaches from 15 JSS of Kharkiv (127 persons in total) were the respondents.

Results of the researches

Effectiveness of JSS activity depends on meaning content of headmaster's management activity. Perfection and innovative character of management mechanisms can ensure timely adapting of organization to market conditions. Implementation of marketing in activity of JSS is an effective mean of increasing of efficiency of management mechanisms. Efficiency of achieving the aim by physical culture and sports organization in the whole depends on the correctness of construction of such management process.

The data of our research witness that with planning of JSS work, first of all headmasters form strategic aims (73,3%). Strategic planning is a process of choosing of JSS aims, their clear formulating and the development of means for achieving of these aims. Application of strategic planning is necessary for successful adoption of management decisions. It includes: determination of mission, interconnection of all structural components of JSS, directions of development, functions, rendering physical culture services of high quality.

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For more specific understanding of what aims exactly prevail with strategic planning, the wider list of them was proposed to respondents for ranging. The specified sequence of aims shows that headmasters are troubled first of all with obtaining of social effect of JSS activity and only then – receiving profit. Such position of respondents is quite acceptable for marketing of services. First of all for headmasters is maximal attraction of children and youth of 6-23 years old to physical culture and sports trainings. With it, they put quick increase of JSS income on the last place. Ranging results were calculated by relative meaning of aim (p) (see table 1).

Table 1

Determination of JSS aims, which are the most important for strategy

№	JSS aims	Place	Questioning results (%)	Relative value of factor (p)
1	Maximal involvement of contingent of 6-23 years old age to trainings at JSS	1	46,7 %	0,12
2	Achievement of the highest sports results by JSS trainees	2	53,3 %	0,13
3	Rising of JSS image	3	60,0 %	0,20
4	Increase of physical culture and sports services' quality	4	33,3 %	0,24
5	Quick improvement of JSS financial situation	5	60,0 %	0,30

Specifying of information about the necessity of marketing implementation into management activity of JSS showed that only 36,6 % of JSS workers use marketing in their management activity. From them, most of all marketing is used for: organization of sports measures -– 66,9%; annual reporting– 51,9%. To the less extent marketing is used for making documentation for academic year– 31,2% and planning of academic load for academic year– 37,5% (see fig. 1).

Nevertheless, respondents nearly unanimously noted necessity of marketing's application for solution of such urgent and strategic situations: collection of documents for receiving of category of sports school– 91,1%; working out of perspective plan of JSS activity– 77,6%.

Administration and senior coaches of JSS have also clear idea that efficiency of marketing's implementation in the process of receiving and validation of category (higher, first or second) is an integral component of their strategy. As per Regulations on JSS, dated November 5th, 2008, exactly compliance with category is evaluation of JSS activity [Regulations on junior sports schools; as on November 5th, 2008, No. 993, cabinet council, Ukraine, Kyiv, 2008, pg.17]/.

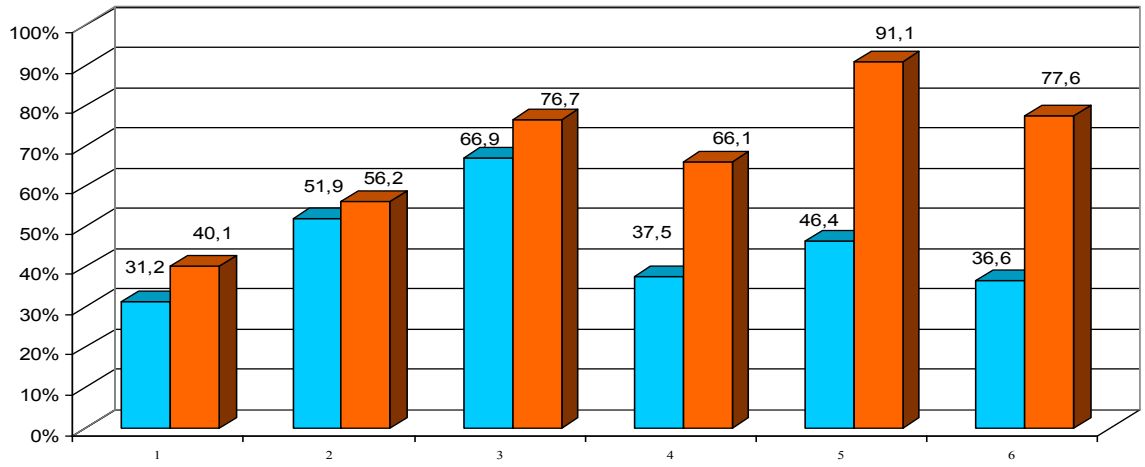

Fig.1 General indicator of application and possibility of application of marketing for solution of urgent and strategic situations in JSS activity:

1 – working out of documentation for academic year; 2 – annual reporting; 3 – organization of sports measures; 4 – planning of load for academic year; 5 – collection of documentation for receiving of JSS category; 6 – working out of perspective plan of JSS activity;

-already use; - would like to use;

As on 01.01.2012 categories of JSS in Kharkiv are as following: the highest category– 7 SJSSR; first category– 27 JSS; second category– 8 JSS; without category– 2 JSS.

No JSS have the highest category and it is connected with the fact that requirements for receiving category have rather increased. Basing on these data, we studied the idea of respondents concerning problems with systemizing of indicators for submitting documents for receiving category. Results of this study showed that on the first place respondents put preservation of stage-by-stage character of JSS disciples' training (51,8%). Exactly this indicator brings problems and is the most difficult with fulfilling requirements for receiving category. Basing on this fact,

headmasters, administration and coaches have to orient, first of all, on sports achievements of their disciples and obtaining sports grades by them (40,2 %), but not on maximal attraction of youth and children to physical culture-health improving and sports activity.

Minority of respondents evaluate positively possibilities of using of marketing: 17,0% consider that I will influence substantially; 16,0% - think that it will simplify the process of receiving (validation) of JSS category. The reason of doubts in possibilities of marketing can be the fact that it is used only by 36,0% of respondents. Only these respondents can have real idea of marketing's obvious advantages in the process of validation and receiving of JSS category.

By the results of questioning qualification level of coaches-teachers' staff is not a direction of JSS activity, which would require detail systemic analysis (17,9 %). The absence of JSS workers' initiative for studying innovations of management activity is one of the threats to the tasks of the researches. Such situation is connected with the absence of sufficient quantity of scientific-methodic literature in theory and practice of marketing in the sphere of physical culture and sports and exactly devoted to JSS as non-profitable organization.

The revealed problems in JSS work, for solution of which it is necessary to use marketing approach, require determination of consequences, expected by respondents. From the offered variants of answers only 3,5 % answered that it will not influence on JSS activity (see fig.2).

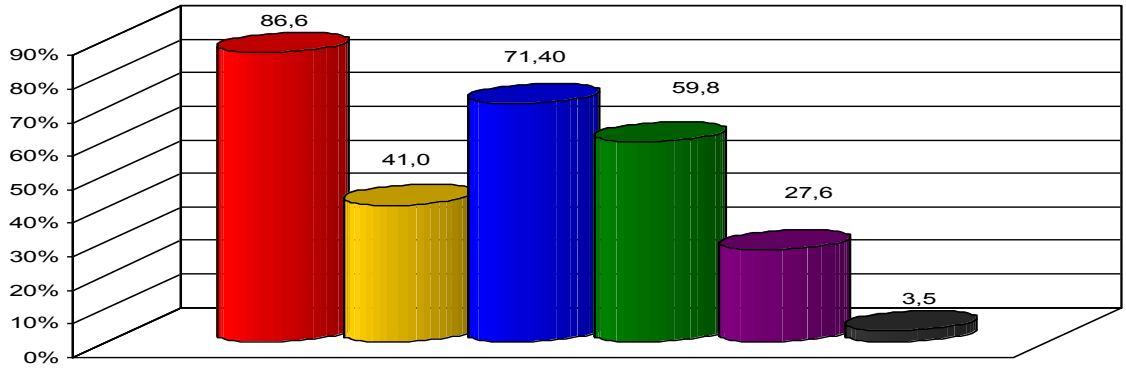

Fig. 2. Possible consequences of using marketing in JSS marketing activity: - increasing of JSS activity; - making work in the reported period easier; - increase of JSS disciples contingent; - JSS compatibility at market of sports services; - increasing of JSS financing; no influence on JSS activity;

The determined possible consequences, which were chosen by respondents, point that JSS workers already think that they work in conditions of physical culture services' market. They underline the requirement to raise the level of JSS compatibility and orientation on demands and quantity of consumers.

The listed above elements of marketing activity require that JSS headmasters have special knowledge and skills, or that JSS should have a specialist in marketing. Exactly these problems are faced by respondents with realization of marketing activity (see fig.3).

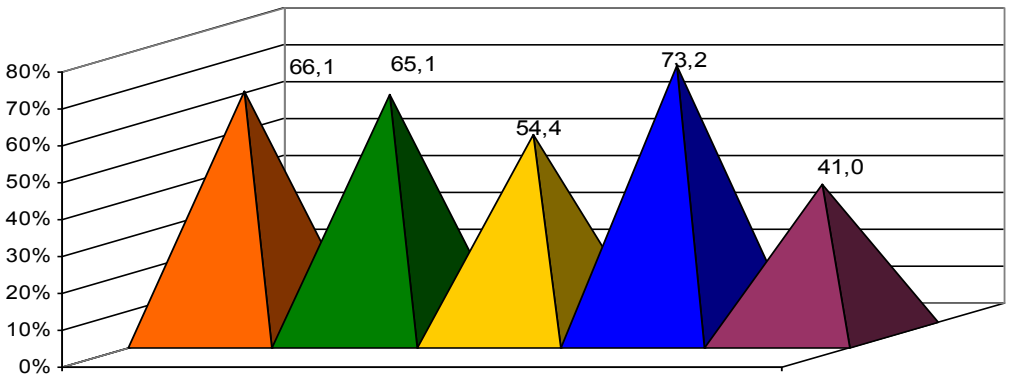

Fig 3. Difficulties that can appear in marketing activity: -insufficient financing; -weak scientific-methodic base; - weak governmental mechanism of implementation; - absence of marketing specialists in administrations of physical culture and sports and JSS; - absence of professional periodical.

Analysis of results of the research witnesses that absence of marketing specialists in administrations of physical culture and sports and JSS will be the main problem for realization of marketing activity – it was noted by

73,2% respondents. Besides, for majority of respondents, independent work with scientific-methodic literature and mastering new methodic in the field of sports and physical culture management also make problems.

Implementation of marketing activity brings not only difficulties, but opportunities, as well. Nearly 73,2% of respondents affirm that using of marketing in JSS management will facilitate its image. For 71,4% this provides opportunity to objectively evaluate own professional activity, 65,1% stress that marketing will help JSS to orientate itself in conditions of physical culture and sports services' market.

Summary

Results of the fulfilled research permitted to objectively characterize unsatisfactory state of marketing's application in JSS management (36,0%). Such situation was conditioned by the absence of marketing specialists in administrations of physical culture and sports and in JSS (73,2%), insufficient scientific-methodic base (65,1%). We have determined the directions of work of the first priority, on which headmasters have been oriented, videlicet: development of JSS development strategy (73,3%), JSS effective management (86,6%), increasing of JSS compatibility (59,8%). The specified possibilities of marketing's implementation in JSS activity can be realized under condition of using of appropriate marketing instrumentation (questioning, observations, analysis of documents and electronic collection of information, methodic of marketing analysis - - PEST and SWOT analysis).

The prospects of further researches. It is stipulated to carry out marketing analysis of JSS management activity.

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FACTOR ANALYSIS OF THE MOST INFORMATIVE PARAMETERS AFFECTING THE EFFICIENCY OF TRAINING WRESTLING STUDENTS OF PHYSICAL EDUCATION

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Annotation. Comprehensively analyzed the various factors that affect the absorption of the students practical course in wrestling. The study involved 98 boys - 3rd year students of the Faculty of Physical Education, who begin the study of the course Combating and methods of teaching. Also, 32 students who are engaged in the struggle. The results of studies of anthropometric, physical, functional, ergonomics students. The input data for the factor analysis were the first 3-ranking figure, biomechanical, physical fitness and functional status, anthropometric. It is established that the content of the first most significant factors included biomechanical parameters that demonstrate the value of balance and coordination abilities of others.
Keywords: sports, fighting, factor analysis, coordination, ability.

Introduction

The problems of improvement of efficiency of different sport disciplines' teaching are worked about by many specialists: specialists in methodic, scientists-researchers, coaches-practitioners, sport doctors and other. In particular, development and perfection of wrestling methodic were dealt with by G.S. Tumanian, A.P. Kuptsov, I.G. Bogdan, M.S. Dubovys, V,F, Boyko, G.V, Danko, Yu.A. Shulika. Their experience have been generalized and elucidated in many publications. Recent years, the problem of students-wrestlers' most important qualities have been studied at physical education department of Donetsk national medical university, named after M. Gorkiy, by T.A. Neskreba, N.O. Dobrovolska. S.I. Shynshyna.

However, in opposite to the researches in the field of training of wrestlers of different qualification, in special literature concerning training of non-sport higher educational establishments' students there is insufficient scope of researches of the most important parameters, which condition good mastering of wrestling practical course by students of different specializations.

Before the beginning of subject's study, in order to increase efficiency of mastering of course "Wrestling and methodic of its teaching", and study of students' individual features, we proposed complex program, which stipulates study of anthropometric, physical, functional and bio-mechanical indicators of every student.

During researches great number of the obtained material do not give complete understanding of factors, which influence most of all on quality of students' mastering of wrestling course.

One of effective methods of determination of different parameters' influence on improvement of wrestling training methodic and their informative character can serve factor analysis, which permits to assume the most important indicators.

The authors of factor analysis concept are, mainly, American and English scientists (Ch. Spearman, L.L. Terstone, G.H. Thompson, S.L, Bart, R.B. Cattell and many others). Interest to these methods is gradually growing in countries of continental Europe.

As on to day, factor analysis is successfully used in psychology and sociology. In opinion of many known researchers, who work in the field of factor analysis, factor methods will soon become important in researches in the field of physical culture and sports. Ukrainian scientists T. Yavorska, R. Akhmetov already apply factor analysis in their researches.

The work has been fulfilled as per plan of topic work of sports department of Chernigiv national university, named after T.G. Shevchenko on subject "Urgent problems of modern bio-mechanics of physical education and sports".

Purpose, tasks of the work, material and methods

The purpose of the researches is to determine indicators, which are the most influential for mastering of sports practical discipline "Wrestling and the methodic of its training" with the help of factor analysis.

The tasks of the research: experimental study of students' individual characteristics and on the base of the obtained data establishing of the most informative parameters with the help of factor analysis.

The methods if the research: analysis, systemizing of scientific literature data, pedagogical observations of students' educational process, pedagogical experiments with application of anthropometry, physiological metering, analysis of students' physical devilment level by State tests and standards of evaluation of Ukrainian population's physical level, bio-mechanical methods of research, methods of mathematical statistics, factor analysis.

Organization of the research. The tested contingent consisted of 98 boys – students of the 3rd year of study (physical education faculty of ChNPU, named after T.G. Shevchenko, who only starts studying of course "Wrestling and the methodic of its training", and 32 students of the same HEE, who are trained in wrestling advanced group of sports-pedagogical perfection (SPP) and have adult sport grades and period of wrestling training not less than 5 years; in total 130 persons in the period from 2010- to 2012.

Results of the researches

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We conducted research of anthropometric, functional indicators, analysis of physical preparedness and study of bio-mechanical parameters of static and dynamic stability of students.

As a result of the research it was established that comparing each anthropometric indicators of SPP group students and of the 3rd years students of PEF ChNPU, named after T.G. Shevchenko showed no confident difference ($p > 0,05$), that is reflected in table 1.

Table 1

Comparative characteristics of anthropometric indicators of 3rd year students of PEF and wrestling SPP students

Nos.	Description of parameters		Units of measurement	3rd year	SPP	*p*
1	Height		cm	178,78±5,11	176,2±5,8	p > 0,05
2	Mass		kg	74,01±8,55	75,21±9,71	p > 0,05
3	Chest circumference (inhale)		cm	100,97±5,71	105,67±5,95	p > 0,05
4	Chest circumference (exhale)		cm	94,61±6,19	99±5,57	p > 0,05
5	Circumference	shoulder	cm	32,6±3,31	32,6±3,31	p > 0,05
6		forearm	cm	28,6±2,1	28,6±2,1	p > 0,05
7		thigh	cm	53,13±6,02	53,13±6,02	p > 0,05
8		shin	cm	37,93±3,24	37,93±3,24	p > 0,05
9		neck	cm	39,2±2,76	39,2±2,76	p > 0,05
10	Length	torso	cm	63,8±6,76	63,8±6,76	p > 0,05
11		arm	cm	77,87±3,16	77,87±3,16	p > 0,05
12		shoulder	cm	35,67±2,92	35,67±2,92	p > 0,05
13		forearm	cm	28,29±2,05	28,29±2,05	p > 0,05
14		hand	cm	19,87±1,13	19,87±1,13	p > 0,05
15		leg	cm	98,47±4,19	98,47±4,19	p > 0,05
16		thigh	cm	49±1,89	49±1,89	p > 0,05
17		shin	cm	48±5,82	48±5,82	p > 0,05
18		foot	cm	27,27±1,16	27,27±1,16	p > 0,05

With comparing every functional indicator of SPP students and 3rd year students, who study at physical education faculty of ChNPU, named after T.G. Shevchenko, confidential difference was found only for VCL indicators ($p < 0,05$). SPP students have much higher VCL indicators than the 3rd year students. With measuring heart beat frequency during 1 minute, systolic and diastolic blood pressure, confident difference ($p > 0,05$) was not registered that is reflected in table 2.

Table 2

Comparative characteristics of functional indicators of 3rd year students of PEF and wrestling SPP students

Nos.	Description of characteristics	Units of measurement	III курс	СПУ	P
1	VCL	cm^3	3710,5±192,3	4820±167,8	< 0,05
2	HBF	b.p.m	75,26±5,56	69±5,45	> 0,05
3	SBP	mm. merc. col.	120,26±8,2	127,87±6,07	> 0,05
4	DBP	mm. merc. col.	70,53±4,15	82,93±3,01	> 0,05

We also determined the level of students' physical preparedness as per State tests and standards for evaluation of Ukraine population's physical level [2]. With comparing of the results of 3rd year students, who start studying "Wrestling and the methodic of its training" and SPP students, we found confident difference of 3 tests' results ($p < 0,05$): rising from squatting position, chin ups and bending forward from sitting position. SPP students have higher indicators in the above mentioned tests. Confident difference was not registered ($p > 0,05$) with long jump from the spot, 3000 m run, 100 m run and shuttle run 4x9 m (see table 3).

Table 3

Comparative characteristics of physical preparedness of 3rd year students of PEF and wrestling SPP students

Nos	Tests	Units of measuring	3rd year		SPP		*p*
			Indicator	Mark	Indicator	Mark	
1.	Rising from squatting position, during 1 min.	times	36,8±2,39	2	53,94±2,24	5	< 0,05
2.	Bending forward for flexibility	cm	13,2±1,64	3	17,39±2,25	4	< 0,05
3.	Chin ups	times	10,6±1,14	2	25,56±1,2	5	< 0,05
4.	Long jump from the spot	cm	238,8±5,54	3	249,56±11,84	4	> 0,05
5.	3000 m run	Min., sec.	12,38±1,48	4	12,11±0,88	4	> 0,05
6.	100 m run	Sec.	13,54±0,52	4	12,6±0,94	5	> 0,05
7.	4 x 9 м shuttle run	Sec.	9,02±0,19	4	8,57±0,17	5	> 0,05

Analysis of bio-mechanical parameters, obtained during tests' fulfillment with the help of stability metering methodic, resulted in establishing of the fact that mean static SPP wrestling group's indicators do not significantly differ from the same indicators of 3rd year students of physical education faculty of HEE.

Previous analysis of the obtained material does not permit to solve definitely the main question of the research: which of factors is the most influential for mastering of wrestling knowledge and skills with high quality. After factor analysis we plan to carry out complex analysis of different parameters. Factor analysis was fulfilled with the help of computer program SPSS 16.

Initial data for carrying out of factor analysis were indicators of wrestling SPP group's students:

1) first three by their rank bio-mechanical indicators (LY, OD та V), which were found by determination of correlation dependences between bio-mechanical characteristics with conducting of stability metering (see table 4).

With studying of bio-mechanical parameters, the main quantitative criteria of static postures were indicators of amplitude and frequency oscillations in sagittal and frontal planes: MO (x), mm – frontal shift; MO (y), mm – sagittal shift; Q (x), mm – frontal spread; Q (y), mm – sagittal spread; R, mm − mean spread; $V_{av.}$, mm p. sec.- mean speed of ЦТ traveling; SV, sq. mm p. sec. – speed of area shift; OD – evaluation of movement; LX, mm – length of ЦТ frontal trajectory; LY, mm – length of ЦД sagittal trajectory; КФР,% – quality of function of balance; Kriv, rad.p.mm coefficient of curvature.

Table 4

Correlation dependences of bio-mechanical indicators of students of advanced sport-pedagogic perfection wrestling group

Test for stability	1	2	3	4	5	6	7	8	9	10	11	12	
MO(x)													
MO(y)	-0,334												
Q(x)	-0,450	-0,450											
Q(y)	-0,615	0,526	-0,307										
R	-0,567	-0,372	0,653	0,865									
V	0,824	-0,464	-0,525	0,573	0,818								
SV	-0,316	-0,353	-0,461	0,628	0,663	0,933							
OD	0,928	-0,542	-0,636	0,893	-0,420	0,941	0,815						
Kriv	0,867	-0,742	0,582	-0,367	-0,509	-0,345	-0,357	-0,416					
LX	0,610	-0,483	-0,577	0,730	-0,361	0,911	0,799	0,980	-0,808				
LY	-0,600	-0,388	-0,474	0,719	0,906	0,970	0,951	0,844	-0,437	0,790			
КФР	-0,474	0,771	0,897	-0,451	-0,338	-0,902	-0,782	-0,867	-0,636	-0,853	-0,849		
Total r	6,58	5,43	6,01	6,67	6,47	8,21	7,06	8,28	6,07	7,9	7,93	7,82	84,43
%	7,79	6,43	7,12	7,90	7,66	9,72	8,36	9,81	7,19	9,36	9,39	9,26	100,00
Rank	8	12	11	7	9	2	6	1	10	4	3	5	

2) first three by their rank bio-mechanical indicators of students' physical preparedness (endurance, quickness, dexterity) were established by determination of correlation dependences between physical preparedness indicators with analysis of the students' physical preparedness (see table 5).

Table 5

Correlation dependences of physical preparedness of advanced sport-pedagogic perfection wrestling group's students

Nos.	SPP	1	2	3	4	5	6	7
1.	Rising from squatting position during 1 min.							
2.	Bending forward for flexibility	-0,659						
3.	Chin ups	0,973	0,502					
4.	Long jump from the spot	-0,123	0,729	0,821				
5.	3000 m run	0,667	-0,704	0,553	0,621			
6.	100 m jump	-0,534	0,927	-0,636	-0,813	0,767		
7.	4 x 9 m shuttle run	0,889	-0,501	-0,594	-0,566	-0,868	-0,743	
	Total r	3,84	4,02	4,08	3,67	4,18	4,42	4,16
	%	13,54	14,17	14,38	12,94	14,73	15,58	14,66
	Rank	6	5	4	7	2	1	3

3) first three by their rank functional state indicators (VCL, SBP, DBP) were established by determination of correlation dependences between students' functional state indicators with carrying out of physiological metering (see table 6).

Таблиця 6

Correlation dependences of functional state indicators of advanced sport-pedagogic perfection wrestling group's students

SPP	1	2	3	4
VCL				
HBF	0,429			
SBP	0,828	-0,783		
DBP	0,916	-0,573	0,650	
Total r	2,17	1,79	2,26	2,14
%	25,96	21,41	27,03	25,60
Rank	2	4	1	3

4) first three by their rank anthropometric indicators (body mass, circumference of neck, forearm length) were established by determination of correlation dependences between anthropometric indicators with carrying out of somatic metering (anthropometry) (see table 7).

Table 7

Correlation dependences of anthropometric indicators of advanced sport-pedagogic perfection wrestling group's students

№	СПУ		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Height																			
2	Mass		0,539																	
3	CC (inhale		0,427	0,839																
4	CC (exhale)		0,427	0,776	0,955															
5	circumference	shoulder	0,403	0,855	0,866	0,852														
6		forearm	0,301	0,812	0,681	0,685	0,808													
7		thigh	0,335	0,893	0,837	0,784	0,783	0,728												
8		shin	0,335	0,877	0,770	0,744	0,716	0,711	0,876											
9		neck	0,704	0,666	0,649	0,610	0,533	0,583	0,450	0,505										
10	length	torso	0,433	0,267	0,021	-0,053	0,047	-0,142	0,223	0,032	0,117									
11		Arm	0,489	0,681	0,552	0,422	0,459	0,541	0,470	0,502	0,856	0,229								
12		shoulder	0,561	0,471	0,540	0,470	0,517	0,408	0,255	0,209	0,825	0,022	0,700							
13		forearm	0,518	0,689	0,652	0,595	0,585	0,650	0,469	0,584	0,833	-0,093	0,822	0,661						
14		hand	-0,039	-0,184	0,014	0,046	0,023	0,157	-0,166	-0,238	0,170	-0,191	0,316	0,268	0,496					
15		leg	0,561	0,455	0,391	0,300	0,411	0,519	0,187	0,145	0,647	-0,097	0,561	0,615	0,502	0,196				
16		thigh	0,469	0,120	0,261	0,360	0,080	0,216	0,031	0,117	0,507	-0,212	0,239	0,259	0,407	0,134	0,424			
17		shin	0,165	-0,221	-0,235	-0,165	-0,193	0,111	-0,194	-0,152	0,134	-0,231	-0,198	0,004	-0,149	-0,240	0,319	0,286		
18		foot	0,543	0,629	0,334	0,386	0,438	0,545	0,454	0,536	0,561	0,361	0,555	0,386	0,507	0,084	0,134	0,130	-0,158	
Ч	Total r		7,25	9,97	9,02	8,63	8,57	8,6	8,13	8,05	9,35	2,77	8,59	7,17	9,21	2,96	6,46	4,25	3,16	6,74
Ч	%		5,63	7,74	7,00	6,70	6,65	6,67	6,31	6,25	7,25	2,15	6,67	5,56	7,15	2,30	5,01	3,30	2,45	5,23
Ч	Rank		10	1	4	5	7	6	8	9	2	17	6	11	3	16	13	14	15	12

Results of factor analysis are given in table 8

Table 8

Factor load of the tested influences on efficiency of wrestling course's mastering

Nos.	Indicators	Factors			
		I	II	III	IV
1.	V	0,832	0,313	-0,450	-0,018
2.	OD	0,873	0,196	-0,354	0,156
3.	LY	0,862	0,309	0,444	-0,096
4.	Endurance (3000 m run)	0,356	-0,690	0,310	-0,424
5.	Quickness (100 m run)	0,598	-0,087	0,372	-0,525
6.	Dexterity (4 x 9 m shuttle run)	-0,122	0,865	0,193	0,058
7.	VCL	0,270	-0,777	-0,157	0,205
8.	SBP	0,682	0,143	-0,058	0,511
9.	DBP	0,618	-0,558	-0,160	0,443
10.	Mass	0,583	0,119	0,623	-0,345
11.	Circumference of neck	0,755	0,053	-0,495	0,047
12.	Forearm length	0,322	0,248	0,571	0,411
	Contribution %	36,84	23,36	22,44	17,36

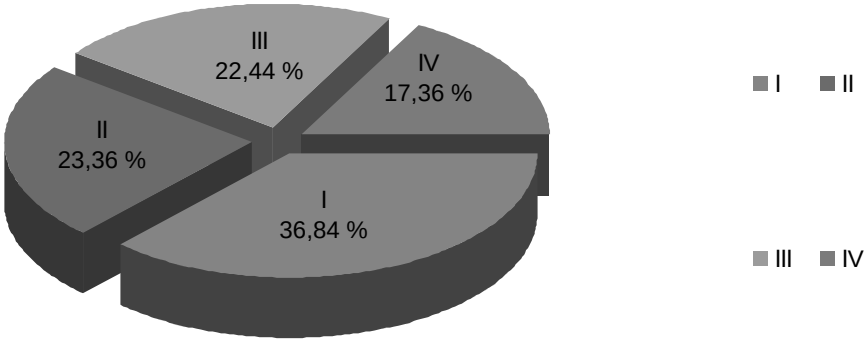
The content of the first, the most significant factor by contribution into general dispersion of the sample 36,84% with the highest coefficients includes bio-mechanical parameters of sagittal (LV) ЦТ trajectory length, evaluation of movement (OD) and mean speed of traveling ЦТ (V), which show significance of function of balance and development of other coordination abilities of the trainees for mastering of practical skills in wrestling. Thus, this factor is interpreted by us as coordination abilities, which are a complex, integral quality.

The second factor with value of sample in general dispersion of 23,36% with high indicators of coefficients, the most remarkable were indicators of endurance, VCL and dexterity. Owing to the fact that dexterity, by classification of many specialists, is one of the components of coordination abilities, we, basing on interpretation of the 1st factor, can refer it, by its significance, even to the 1st factor, speaking about wrestling training. Besides, wrestling is characterized by long term tension, which requires substantial endurance, that is why it is very important that organism would be able to carry out the work of the given intensity during long period of time [6,13]. Endurance is ensured by the whole complex of changes, which take place in organism with muscular work. Development of endurance is mainly connected with improvement of coordination of motional functional abilities of organism and is conditioned, first of all, by development of blood circulation and respiratory organs, that provide working muscles and organism's tissues with oxygen [1,14]. That is why VCL parameter, with its strong statistic connection with endurance indicator, is not an occasional one in this factor.

In the third factor with its contribution to general dispersion of 22,44%, substantial load is born by anthropometric indicators of body mass, circumference of neck and forearm length, that determine certain peculiarities of body constitution. Thus this factor can be characterized as anthropometric.

In the fourth factor with its contribution to general dispersion of 17,36 % we marked out quickness indicators and SBP and DBP indicators. Thus, this factor can be characterized as quickness-functional one.

So, percentage of different parameters' influence on efficiency of mastering of practical wrestling course can be shown in diagram (see fig.1).



I – coordination abilities

II – endurance

III – anthropometric features

IV –quickness-functional

Fig.1. Diagram of factor load on efficiency of wrestling training

Results of factor analysis concerning the most important place of coordination abilities in efficiency of mastering of wrestling knowledge and skills, which were obtained in our research, comply with ideas of many specialists in the field of wrestling.

Thus, alongside with other physical characteristics, coordination abilities are of great importance in martial arts. Teaching experience shows that successful mastering of discipline "Wrestling and methodic of its training" implies steady mastering of coordination skills on the base of reasonable usage of previously accumulated motion experience. In educational-training process, with the help of exercises, oriented on development of coordination abilities, students master special coordination knowledge and skills, which positively influence on physical development in general.

Summary

Factor analysis resulted in determination that the first, the most significant for mastering wrestling course, factor, with its contribution to general dispersion of sample 36,84%, includes bio-mechanical parameters, which demonstrate significance of static and dynamic stability, function of balance and development of other coordination abilities of students. This factor is interpreted by us as coordination abilities, which are a complex, integral quality.

The prospects of further researches. It is planned to carry out researches concerning determination of place and significance of psychological factors in wrestling training.

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HEALTH ATTITUDES OF THE FEMALE STUDENTS FROM OLSZTYN, POLAND - THE PHYSICAL ACTIVITY, ADDICTIONS AND THE KNOWLEDGE ABOUT HEALTH BEHAVIORS

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Annotation. Efforts to improve the health of the population are now focused on promoting healthy lifestyle, improve living conditions and to reduce mortality. Health education activities include regular physical activity, optimal nutrition, reduce addictions and stress. The purpose of the survey conducted among 672 first-year female students at the University of Warmia and Mazury in Olsztyn (Poland) was to determine the attitudes of young women towards a healthy lifestyle. Using anonymous survey questionnaire asked students about the form of physical activity, nutrition, the presence of stressful situations, the use of drugs, such as alcohol and cigarettes, and the interest in deepening knowledge of public health. The majority of students have participated only in obligatory physical education classes in high school and college. They considered that physical activity during the studies should be voluntary. Only 4.24% of students were total abstinence from alcohol, but 79.10% was non-smoking. Many of the women declared the need to change the diet, reducing alcohol intake and give up smoking habit. The students felt that stress connected with attending university is unavoidable, and thus revealed an interest in reducing and limiting mental tension. Despite their young age, students expressed interest in topics such as: first aid course, nutrition, sexuality, and pregnancy problems.
Key words: health attitudes, university, female students, Poland.

Introduction

Health, as the value of acquired, in the opinion of the experts of the World Health Organization is a state of complete balance of the physical, mental and social, and not only the absence of disease and disability. Health is a value, not an end in itself, it should improve, enhance or restore, thereby improving the quality of life. The health situation of the population is determined by the influence of many factors associated with biological, social and economic factors. Amongst biological to distinguish it is possible factors associated with genetics, ripening or the ageing. The environmental influences relate primarily to physical and chemical factors, and the social-life of a human being. The impact on health is also access to primary and secondary health care, which is known in developing countries, is often difficult. The most important factor that determines a state of complete physical, mental and social, is the style of life of the individual [1]. Specific behaviors associated with work and recreation, the system of values and life skills specific to a given person will be responsible for the satisfaction of life in full health into old age [2].

Efforts to improve the health of the population are now focused on promoting healthy lifestyles, improve living conditions and to prevent and reduce mortality from diseases of civilization. Health education activities are aimed at making regular physical activity, optimal nutrition, avoiding drugs, the right amount of sleep and stress response. Negatively affect the human body lives in a hurry and chronic stress, alcohol abuse, smoking, willingness to take risky and aggressive behavior [3].

Activities undertaken in leisure-time is one of the main factors preventing cardiovascular disease, type II diabetes, osteoporosis and some cancers [4]. According to the experts, to maintain and improve the health of just necessary minimum daily 'dose' of exercise in the form of 10-15 thousand steps. It is recommended to practice a minimum of 30 minutes of moderate activity at least 5 days a week [5]. In comparison with other European countries [research project Bridging the East-West Gap] society Poles are showing the lowest percentage of people with high activity and the highest among the leading sedentary lifestyle. In addition, there is a tendency reducing of physical activity with age [6].

College is a time of learning and fun, mostly away from the supervision of parents, and therefore a way of life and nutrition student and the nature of the use of his free time depends largely on the financial situation, place of residence and the schedule of studies undertaken [7]. In general, young people are aware of the dangers of smoking cigarettes or drinking alcohol. They know the consequences of poor diet and low physical activity levels, but the change of environment, succumbing to the influence of the environment that makes making decisions detrimental to their health. Researches on students' lifestyles were conducted in Poland [8, 9, 10] as well as all over the world [11, 12, 13]. Is, however, much less research on the subjective opinion of students on the issues of public health. The need to raise awareness about the lifestyle of students, their level of interest in health prevention activities already observed in other countries, including Germany [14].

Aim of study

The aim of the study conducted among 1st year female students at the University of Warmia & Mazury in Olsztyn (UWM) was to assess their habits and attitudes towards a healthy lifestyle. The study aim was realized by attempting to answer the following questions:

1. What types of physical activity do students assume and how do they feel about it?
2. Are the students' lifestyles and attitudes towards health appropriate?

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Materials & Methods

The questionnaire was conducted in the summer semester of the 2005/2006 academic school year during obligatory P.E. classes. A total of 672 1st year female full-time students enrolled at the UWM were surveyed, which constituted over 95% of females aged 19-20 from randomly selected P.E. classes. The research was carried out in compliance with prior consent from the Ethical Committee of UWM, and the volunteers willingly agreed to participate in the study. The vast majority of students were permanent residents of the Warminsko-Mazurskie voivodeship in Poland. Table 1 provides a more detailed picture of the research group.

The highest percentage of students reported renting accommodation (48.70%), slightly less at home (23.61%) or on campus (22.68%). The highest number of students were residents of villages (39.02%), least students lives in big cities - from 50 to 100 000 population (7.47%). The vast majority of respondents were graduates of comprehensive high schools (81.73%).

Table 1. Description of the examined population

Residence during studies											
Dormitory		Rented Room or Flat		Family Home		Boarding school		Other		Total	
N	%	N	%	N	%	N	%	N	%	N	%
122	22.68	262	48.70	127	23.61	27	5.02	538	100	122	22.68
Place of permanent residence											
Village		Town								Total	
		< 20 000		20-50 000		50-100000		>100 000			
N	%	N	%	N	%	N	%	N	%	N	%
256	39.02	99	15.09	129	19.66	49	7.47	123	18.75	656	100
Place of secondary school completed											
Village		Town								Total	
		< 20 000		20-50 000		50-100 000		>100 000			
N	%	N	%	N	%	N	%	N	%	N	%
28	4.28	183	27.98	195	29.82	85	13.00	163	24.92	654	100
Type of secondary school completed											
Comprehensive High School				Vocational Secondary school				Total			
N		%		N		%		N		% 100	
528		81.73		118		18.27		646		100	

Explanations: N – number of answers, % - percentage

A diagnostics survey method was applied in the research using an anonymous questionnaire. Statistical calculations were performed with the aid of the Statistica v.10 PL software package.

Results

The study results have been divided into the following categories of human behaviors influencing health: physical activity, personal hygiene, nutrition, alcohol/tobacco use, reaction to stress and knowledge on public health.

Physical activity

The behaviors and opinions of 1st year students regarding physical activity have been presented in tables 2-5. They show that highest percentage of the students (71.13%) took part in only one type of physical activity during secondary school. The vast majority of the respondents periodically restricted participation in physical education (55.21%) and 43.75% of the respondents did not benefit from the exemption of activities. Permanent exemption from classes declared seven women (1.04%) (Tab. 2).

Table 2. Students' opinions on forms of physical activity assumed during secondary school

Number of forms											
1		**2**		**3**		**4**		**5**		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%
470	71.13	141	21.40	20	3.03	28	4.25	0	0.00	659	100
Not limited			**Periodically Limited**			**Limited constantly**			**Total**		
N		%	N		%	N		%	N		%
294		43.75	371		55.21	7		1.04	672		100
Number of limited disciplines											
1		2		3		4		5		6		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%	N	%
165	65.73	56	22.31	14	5.58	7	2.79	6	2.39	3	1.20	251	100

Explanations: N – number of answers, % - percentage

Physical education classes in high school are mandatory, but the study shows that not all respondents took part in them (93.06%). Approximately one third of them declared exercising alone or sporadically with family (28.39%). Only

10.16% practiced sports in school sports clubs and 7.10% in those organized by non-school sports clubs. None of them benefited from the proposed activities organized by the Academic Sports Association (Tab. 3).

Table 3. Forms of physical activity undertaken by students during secondary school

Physical activity form	N	%
Obligatory PE Lessons	577	93.06
School Sport Club (SSC)	63	10.16
Collegiate Sport Club	21	3.39
Non-school Sports Clubs	44	7.10
Society for the Propagation of Physical Culture	5	0.81
Other Organisation	4	0.65
Academic Sport s Association	0	0.00
None	4	0.65
Individually, occasionally with family	176	28.39

Explanations: N – number of answers, % - percentage

The vast majority of surveyed students (72.68%) assessed their level of physical fitness as good, and about 18.70% as satisfactory. Nearly 7% of respondents considered their level of motor fitness as very good, and only 7 persons as outstanding. No respondent failed to assess the level of efficiency as very weak, and only 3 persons defined as poor (Table 4).

Table 4. Students' opinion on their level of motor fitness on a scale of 1 - 6

Level of motor fitness	N	%
1 (very poor)	0	0.00
2 (poor)	3	0.49
3 (satisfactory)	115	18.70
4 (good)	447	72.68
5 (very good)	43	6.99
6 (outstanding)	7	1.14
Total	615	100

Explanations: N – number of answers, % - percentage

Due to the fact that post-adolescent girls often refrain from any forms of physical activity in secondary school as well as during their studies, the study subjects were asked about the desired nature and form of P.E. classes attended at university. Most students (58.18%) stated that P.E. classes should be offered as electives starting from the very first year of studies. Fewer students (25.45%) felt that P.E. classes should be obligatory during the first and second years, and by 11.67% should be mandatory classes throughout the course of the studies. Less than 5% of the students surveyed felt that physical education classes should not be at all. Most students (74.96%) wanted to participate in P.E. classes recreationally, while approximately one fifth (14.53%) preferred sports. Just over of students 4% weren't able to specify the preferred nature of P.E. lessons and 6.34% didn't want to participate in any form whatsoever (Tab. 5).

Table 5. Students' opinions on the nature and form of the PE lessons during university studies

Nature of PE lessons									
Obligatory during all study years		**Obligatory during first two years**		**Only voluntary**		**Completely unnecessary**		**Total**	
N	%	N	%	N	%	N	%	N	%
77	11.67	168	25.45	384	58.18	31	5.00	660	100
Form of PE lessons									
No opinion		**I do not want to attend**		**Recreation**		**Sport**		**Total**	
N	%	N	%	N	%	N	%	N	%
38	6.34	25	4.17	449	74.96	87	14.53	599	100

Explanations: N – number of answers, % - percentage

Personal hygiene

A similar percentage of students surveyed felt that the sanitary and hygienic conditions are appropriate or had a neutral opinion (respectively 41.48% and 40.95%). Nearly one fifth female students reported that the hygienic conditions at the University of Warmia and Mazury, whilst 33.24% felt otherwise. The highest percentage of students (30.97%) indicated that in order to increase the level of hygiene at the university, it is necessary to supply cleaning

products. Significantly fewer students indicated improving the cleanness of facilities and to remodel and improve the standards of the infrastructure as a whole (27.74% and 26.45% respectively). The development of the university was mentioned by only 14.84% of the respondents (Tab. 6).

Table 6. Students' opinions on sanitary conditions at UWM and methods of improvement

Are the sanitary conditions at UWM satisfactory?							
Yes		**No**		**I do not know**		**Total**	
N	%	N	%	N	%	N	%
236	41.48	100	17.57	233	40.95	569	100
How to improve it?							
Improve room cleanness						43	27.74
Cleaning products						48	30.97
Repairs; increasing the standards of buildings						41	26.45
University development						23	14.84
Total						155	100

Explanations: N – number of answers, % - percentage

Daily hygiene including showering, brushing teeth, and cleaning intimate parts of the body was indentified among the most important habits connected with good health by 54.98%. Similar percentages of students considered proper nutrition, the use of cosmetics and other as an important aspect of good health (12.80%, 10.70% and 11.62% respectively). Frighteningly low percentage of respondents opted for physical fitness (2.56%). Nearly one third of those questioned specified just one or two pro health behavior, while only 28.51% found three treatments (Tab. 7).

Table 7. Students' opinions on the most important pro-health activities

Most important pro-health activities	**N**	**%**
Everyday body hygiene	601	54.98
Nutrition	140	12.80
Cleanliness and Tidiness of Apparel	45	4.11
Cleaning and disinfection of rooms/flats	35	3.20
Cosmetics	117	10.70
Proper motor fitness	28	2.56
Other	127	11.62
Total*	1093	100

No of activities													
1 activity		**2 activities**		**3 activities**		**4 activities**		**5 activities**		**6- activities**		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%	N	%
161	32.33	159	31.93	142	28.51	33	6.63	2	0.40	1	0.20	498	100

Explanations: N – number of answers, % - percentage, * - the examined students could give several answers

The highest percentage of students (27.47%) was able to indicate three infectious diseases. Similar percentages of students were able to indicate three and four infectious diseases (21.77% and 21.22%) and six and seven (5.17% and 5.35%). Almost few were able to identify more than 8 (Tab. 8).

Table 8. Number of infectious diseases familiar to female students

Number of infectious diseases																			
1		**2**		**3**		**4**		**5**		**6**		**7**		**8**		**9**		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
77	14.21	94	17.34	118	21.77	115	21.22	76	14.02	28	5.17	29	5.35	3	0.55	2	0.37	542	100

Explanations: N – number of answers, % - percentage

Almost all students (94.78%) felt it was necessary to know first aid. Only nine people didn't consider this to be important and almost 4% had no opinion on the matter (Tab. 9).

Table 9. Students' opinions on knowledge of first-aid

Yes		**No**		**No opinion**		**Total**	
N	%	N	%	N	%	N	%
635	94.78	9	1.34	26	3.88	670	100

Explanations: N – number of answers, % - percentage

Nutrition & tobacco/alcohol use

Tables 10 – 13 present the habits and opinions of students regarding nutrition and tobacco/alcohol use. Nearly 40% of respondents felt that their current diet has a positive effect on their health, while 35% reported their negative impact. The majority of respondents believed that nutrition will have an impact on their health in the future (49.35%), therefore more than three-quarters of respondents expressed the willingness to improve their dietary habits.

Table 10. Students' opinions on their nutritional habits and the willingness to change them

Current influence of nutrition							
Positive		**Negative**		**Lack of influence**		**Total**	
N	%	N	%	N	%	N	%
246	38.44	224	35.00	170	26.56	640	100
Future influence of nutrition							
N	%	N	%	N	%	N	%
305	49.35	203	32.85	110	17.80	618	100
Willingness to change eating habits							
Yes		**No**		**No opinion**		**Total**	
N	%	N	%	N	%	N	%
523	78.06	147	21.94	0	0.00	670	100

Explanations: N – number of answers, % - percentage

The large majority of questioned 1st year students (85.00%) admitted to sporadically consuming alcohol. Only 4.24% denied drinking alcohol altogether with 3.79% stating that they drank only once a month. Relatively high percentages, 6.06% admitted that they drank alcohol once a week. The large majority of questioned declared drinking only one type of alcohol (96.40%).

Table 11. Students' opinions on alcohol consumption

Alcohol consumption											
I do not drink		**Sporadically**		**Once a month**		**Once a week**		**Every day**		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%
28	4.24	561	85.00	25	3.79	40	6.06	6	0.91	660	100
Number of types of alcohol											
1		2		3		4		**Total**			
N	%	N	%	N	%	N	%	N	%		
562	96.40	12	2.06	9	1.54	0	0.00	583	100		

Explanations: N – number of answers, % - percentage

Beer (55.41%) and wine (25.12%) were among the most popular alcoholic beverages. Relatively fewer people reported drinking vodka or other forms of alcohol (7.93% and 10.22%). Similar percentages of students said that alcohol should be readily available on campus or didn't have an opinion on the matter (39.21% and 39.06%), but 21.73% this (Tab. 12).

Table 12. Students' opinions on most often consumed kind of alcohol and access to it on the territory of UWM

prefer to drink	**N**	**%**
Beer	324	34.25
Wine	296	31.29
Cognac	10	1.06
Vodka	98	10.36
I do not drink at all	102	10.78
Other	33	3.49
Total*	863	100.00

Should Alcohal be Allowed on Campus							
Yes		**No**		**No opinion**		**Total**	
N	%	Nie	%	N	%	N	%
478	69.58	62	9.02	147	21.40	687	100

Explanations: N – number of answers, % - percentage, * - the examined students could give several answers

Most female students (79.10%) were completely against smoking but 6.32% felt it was acceptable in certain situations. Approximately 10.23% of the respondents believed that smoking helps to relieve stress and a bit over four percent – that it helps socialize. Most students who smoked (43.93%) wanted to quit, while a significant percentage did not wish to do so or did not have a clear opinion on the issue (28.97% and 27.10% - Tab.13).

Table 13. Students' opinions on smoking

Opinions						**N**	**%**
I am in favour of total abstaining from cigarettes completely.						526	79.10
I sometimes approve of smoking in social circumstances and with moderation						42	6.32
Smoking helps relieve nerve tension						68	10.23p
Smoking helps meet people						29	4.36
Total						665	100
Do you want to give up smoking?							
Yes		**No**		**No opinion**		**Total**	
N	%	Nie	%	N	%	N	%
47	43.93	31	28.97	29	27.10	107	100

Explanations: N – number of answers, % - percentage

Stress

The opinions of female students regarding stress are presented in tables 14 and 15. Nearly half of the students (52.94%) agreed that it is impossible to avoid stressful situations while at university, while quarter (24.89%) were very worried about stress and fewer than 20% (22.17%) felt that they would be able to cope with it well (Tab. 14). Most respondents indicated two methods (44.83%), while a similar percentage of declared or use one of three methods of coping with stress (respectively 28.33% and 26.39%).

Table 14. Students' opinions on stressful situations encountered during studies and the number of methods they were familiar with of coping with stress

Opinions										**N**	**%**
I consider stressful situations to be unavoidable										351	52.94
Stressful situations are encountered but I shall cope with them										147	22.17
I am very afraid of stressful situations										165	24.89
I cannot answer univocally										0	0.00
Total										663	100
Number of indicated methods											
1		**2**		**3**		**4**		**5**		**Total**	
N	%	N	%	N	%	N	%	N	%	N	%
189	28.33	299	44.83	176	26.39	3	0.45	0	0.00	667	100

Explanations: N – number of answers, % - percentage

Sport was reported to be the best means of dealing with stress (19.74%), followed by meeting with friends (15.30%). Walking, listening to music or relaxing was also considered to be good methods by 11.91%, 8.21% and 5.35% of students respectively (Tab.15).

Table 15. Students' opinions on the best methods of coping with stress

Methods	**N**	**%**
Relaxation methods (yoga)	26	1.96
Massage	9	0.68
Breathing exercises	7	0.53
Doing sports	262	19.74
Proper nutrition	23	1.73
Meeting friends	203	15.30
Listening to music	109	8.21
Talking to a psychologist	3	0.23
Proper organisation of time	9	0.68
Sleeping	49	3.69
Alcohol, nicotine and drug use	16	1.21

Drinking coffee	6	0.45
Drinking tea	17	1.28
Sweets	58	4.37
I do not think about stress	56	4.22
Relaxing	71	5.35
Sauna	7	0.53
Walking	158	11.91
Hobby	9	0.68
Talking with a friend	63	4.75
Reading books	10	0.75
Shopping	17	1.28
Sex	18	1.36
Crying	5	0.38
Watching TV	6	0.45
Taking pills/medication	12	0.90
I do not know	33	2.49
Other	65	4.90
Total*	1327	100

Abbreviations: N – number of responses, % - percentage, * - the examined persons could give several answers

Knowledge regarding health care

First-year university students were very interested in gaining knowledge on the following topics of health care: first aid (61.03%), stress prevention and reduction (57.59%), nutrition (57.42%), problems with pregnancy and proper care during it (50.22%), and sexuality (49.04%). The spread and prevention of infectious diseases (60.28%), ethics of sexuality (52.65%), physical activity programs and guidelines (49.69%), controlling and assessing one's level of motor fitness (49.69%), and differences in the health behaviors of men and women (49.27%) were shown to invoke the partial interest of the surveyed students. On the other hand, topics such as: nicotine use and its consequences (61.40%), the reasons behind alcoholism and its consequences (47.65%), tiredness and fatigue (45.36%), and biorhythms and their influence on peoples' behaviors were not found to grab the attention of members of our study group (Tab.16).

Table 16. Knowledge on public health gained in voluntary lessons

Subjects	**I am interested in the following subjects**							
	Fully		**Partly**		**Not at all**		**Total**	
	N	%	N	%	N	%	N	%
Tiredness & fatigue	81	12.96	269	43.04	275	44.00	625	100
First aid	392	60.40	238	36.67	19	2.93	649	100
Sexuality	264	41.77	296	46.84	72	11.39	632	100
Culture of interpersonal contacts	317	50.56	240	38.28	70	11.16	627	100
24 h rhythm of work and rest	166	27.62	267	44.43	168	27.95	601	100
Civilization diseases	188	29.15	305	47.29	152	23.57	645	100
Sexual life of humans	273	40.87	311	46.56	84	12.57	668	100
Essence of psychological and social health hazards	257	44.08	227	38.94	99	16.98	583	100
Rest	128	22.15	255	44.12	195	33.74	578	100
The spread and prophylaxis of civilization diseases	161	26.14	353	57.31	102	16.56	616	100
Ethics and culture of sexual life	212	33.54	317	50.16	103	16.30	632	100
Methods of preventing and reducing stress	362	59.15	208	33.99	42	6.86	612	100
Hygiene of brain-work	233	37.70	243	39.32	142	22.98	618	100
Proper nutrition	336	55.35	198	32.62	73	12.03	607	100
Venereal diseases and methods of protection against them	143	23.91	292	48.83	163	27.26	598	100
24 h rhythm of work and rest	136	20.96	257	39.60	256	39.45	649	100
Control and self-assessment of individual physical ability	121	18.56	324	49.69	207	31.75	652	100
Personal hygiene and lifestyle	154	23.77	293	45.22	201	31.02	648	100
Conjugal maturity	271	40.27	259	38.48	143	21.25	673	100
Nicotine use and its consequences	94	14.99	148	23.60	385	61.40	627	100
Physical activity programmes	107	16.64	323	50.23	213	33.13	643	100

Prophylaxis against colds and building resistance	198	29.03	289	42.38	195	28.59	682	100
Motherhood and fatherhood –planning of family	245	35.40	269	38.87	178	25.72	692	100
Alcoholism, causes and problems	104	15.78	241	36.57	314	47.65	659	100
Everyday physical culture	114	17.22	302	45.62	256	38.67	662	100
Differences in male and female health behaviours	174	25.44	337	49.27	173	25.29	684	100
Problems of pregnancy and its protection	345	50.22	247	35.95	95	13.83	687	100
Drug use	178	28.66	241	38.81	202	32.53	621	100

Abbreviations: N – number of responses, % - percentage

Discussion

Risk behaviors that contribute to an increase in morbidity and mortality among youth and adults, are due to behavioral and are often established during childhood and adolescence. Contemporary youth lifestyle is far from a healthy lifestyle model promoted in the literature. Increased rates of morbidity and mortality from various civilization diseases are mainly due to smoking, improper diet and lack of physical activity [15]. Sedentary lifestyle, and hence no activity in leisure time, is closely correlated with an increase in the number of obese people in the adult population in the European Union [16]. Despite growing awareness of Poles, the necessity of making physical activity to maintain and improve health, only a small part of the population has the satisfactory level of motor fitness.

It seems reasonable to monitor lifestyles of students, particularly in the field of physical activity and addictions. Graduates are assumed to be the elite of our society, so they should show understanding for the need to change lifestyles and promote healthy behaviors among their families and friends.

The basic aims of physical culture, which include stimulating development and motor fitness, health, recovery of physical and mental strength as well as shaping desirable personality traits is to form permanent motor habits performed daily in order to improve or maintain health at an optimal level. The presented study reveals the behaviors and opinions of UWM female students regarding the above mentioned aspects of health risks and their prevention. The results are alarming. Over 56% of respondents limited participation in obligatory P.E. lessons in high school because of sick leave, even though it's almost 73% of its motor fitness rated as good. Almost 60% of students agreed that physical education classes during the study should be purely voluntary since the first year, more than it should be of recreational activities (75%). Attitude towards physical activities students confirms that women compared with men less likely to undertake physical activity as well as participate in additional recreational activities at a lower frequency [12, 17]. The youth of today spend the majority of their free time on the computer or in front of TV. These negative habits do not change during studies at university, when students spend even more time in the sitting position during lectures.

The problem of obesity and overweight due to lack of exercise and excessive food intake is currently a global problem, as indicated by the results of research within the WHO MONICA [18]. The main cause of irregular eating by students is the lack of time and an irregular schedule. Nowadays, due to the difficult financial situation of students take up jobs while studying, which further affects food products with high calorific value (fast-food), of late or in a hurry. Our research showed that nearly 78% of the surveyed students would like to improve their diets. Students are aware that proper diets in the past and now have a significant impact on their current state of health, appearance and well-being. The need for educating university age youth on the topic of nutrition has been observed throughout the world in countries such as: the United States [19], Spain [20], and Italy [21]. Providing knowledge regarding healthy eating and food safety can in fact lead to the improvement of dietary habits [22].

The conducted studies also dealt with the issue of tobacco and alcohol use. Most young people take up smoking and drinking due to peer pressure, curiosity, and in order to draw attention to themselves. Alcohol consumption among students is recorded regardless of the country of which they are, or course of study [23, 24]. The problem of excessive alcohol consumption contributed to the creation of international research projects, such as The European School Survey Project on Alcohol and Other Drugs – ESPAD [25]. According to the research, alcohol usually accompanied by events or emotional situations. In the opinion of students facilitates contacts and improves mood. The large majority of respondents (approx. 85%) admitted to the sporadic consumption of alcohol with only a mere percentage (approx. 4%) abstaining from it. Data concerning the regular consumption of alcohol (every week - 6% and every day almost 1%) is very worrisome. It indicates that these young females are at risk of becoming alcoholics. Comparing our research to those of another Polish author, insignificantly more students (9%) in Gdańsk abstained from drinking [8]. In general the questioned students didn't have anything against the availability of alcohol products on campus. From the above we can conclude that drinking alcohol is trendy and students are significantly influenced by the university environment [26]. These results are alarming, because alcohol is a substance very harmful for health, consequently leading to mental, physical and social disorders. Pathological changes relate to the liver, heart muscle and nervous system and gastrointestinal tract. Alcoholism among young people causes more accidents, crimes and increased negative sexual behaviors.

Tobacco use also poses a major health risk, as smoking is currently considered to be the most serious health risk factor and the main reason behind premature mortality. Research Steptoe et al. [11] conducted among students of European countries indicates that the frequency of smoking by young people increased significantly. In their study, nearly 80% report a negative attitude to smoking cigarettes. Some of the students admitted to smoking regularly, and more than 10% smoke a cigarette in stressful situations. The percentage of women smokers in the presented research is lower than in other studies conducted among the students of Polish universities (Medical University of Lodz - 31.6%,

Medical University of Lublin - 25.2%) [26, 27]. The majority of smokers expressed the wish to break this negative habit (44%). An alternative to smoking may be physical exercise which helps relieve nervous tension. The fitness habit is definitely healthier than nicotine addiction.

Life satisfaction is also dependent on the ability to cope with stressful situations. Symptoms of depression were identified as a health problem among the students from many countries. Students pointed to general anxiety, feelings of hopelessness and sadness. Moderate symptoms of depression were reported in 43% of the students in Central and Eastern Europe [28]. Studies have shown that almost ¼ of students, even though they know ways of coping with stress, fears of occurring stressful situations during the study. According to Mikolajczyk et al [29] these situations arise not only from the need to learn, but also with a possible change of residence, change in financial situation and the need to adapt to the new environment. Students taking part in the study declared the elimination of tension through physical activity (19.74%) and meeting friends (15.30%).

An important element in shaping health behavior is the knowledge of the issues in this area. The university environment is a good opportunity for young adults to adopt a healthy lifestyle. It is possible that health education program during the university course have positively influence for alter the behaviors of students in terms of physical activity, nutrition and stress management [30]. In order to be successful however, such programs must account for the opinions and current behaviors of students in a particular university environment. Female students were asked about their willingness to participate in lectures in the field of public health. Our research shows that despite some negative tendencies many students expressed the readiness to improve their lifestyles. Observations concerning the lifestyle and health attitudes of young adults are a very valuable source of information and ought to be continued in the future.

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PRO-HEALTH BEHAVIOURS AND BELIEF IN ONESELF AMONG 13-15-YEAR OLD TEENAGERS LIVING IN BIAŁA PODLASKA

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Annotation. The aim of the research was to get information about pro-health behaviours and belief in oneself among 13-15-year old teenagers living in Biała Podlaska. The research included 229 pupils from three Grammar Schools (115 girls and 114 boys). The range of respondents' age varied from 13 to 15 years old. The research tool was two anonymous questionnaires. The first questionnaire contained questions concerning teenagers' belief in themselves and the efficacy of their activities (10 statements). The second questionnaire referred to the pro-health behaviours and it consisted of 14 situations described in the form of multiple choice questions. It was shown that Grammar School goers higly evaluated their own sense of efficacy (31,2 points). Girls (30,39 points) in comparison to boys (32,05) evaluated their efficacy lower by 1,66 points. Grammar School goers in 85,7% of cases choose healthy behaviours and girls are the group which reach for such behaviours more often.
Key words: pro-health behaviours, tennagers, scale of efficacy.

Introduction

The condition level of individual's health as well as the whole society depends on various factors. According to Szilagyi-Pągowska (1994) the following factors can be enumerated: healthy behaviours and lifestyle which are tightly related with each other and have bilateral influence.

According to De Vries (1999) healthy behaviours are defined as those which favor own health and/or other people's health, taken up individuals or groups of people' and have a real influence on one's health. Such behaviours include proper eating habits, proper physical activity, personal hygiene and taking care of one's safety. These behaviours are shaped from the early childhood in the process of upbringing and under the influence of many various factors such as: social, material as well as psychological (Woynarowska and co-authors 2000).

Health education plays a significant role in the process of acquiring knowledge and replacing existing behaviours with the desired ones. The results of these changes would be more effective and permanent if people believed more in their own efficacy (Gromulska and co-authors 2009). In other words it is called self-efficacy and according to Bandura (1986) it is the belief of own ability to organize and control own behaviour in order to achieve certain, expected by oneself result of such behaviour. Health behaviours are taken up more willingly as long as people possess a high self-esteem. Thanks to that people believe that all goals are possible to be achieved and that the obstacles and hardships will not prevent them from achieving their goals (Baggozi and co-authors 1998, Schwarzer, de Vries and co-authors 2003, Sandvik and co-authors 2007, Heszen and co-authors 2007).

In connection with aforementioned the aim of the research was to get information about pro-health behaviours and belief in oneself among 13-15-year old teenagers living in Biała Podlaska

Defined in this way major aim of the research requires finding answers to the following questions:

1. What is the evaluation level of efficacy of actions among teenagers living in Biała Podlaska?
2. Do teenagers willingly choose pro-health behaviours?
3. Does evaluation of own efficacy modify pro-health behaviours?

Materials and methods

The research included 229 pupils from three Grammar Schools (Forms IA-IIIA) among whom there were 115 girls and 114 boys. The range of respondents' age varied from 13 to 15 years old (13,97+/-0,87).

The major research method involves diagnostic poll along with a questionnaire as a research tool. In the research a modified version of Żukowska's questionnaire entitled " I – my health - sport is used (Academy of Physical Education, Warsaw). The questionnaire consists of 14 situations. Among three possible answers a respond should circle this one which is closer to him/her. Every answer was given a specific amount of points and they were divided into three groups – inappropriate – 1 point; neutral – 2 points, and appropriate – 3 points. All the questions concern behaviours and choices having influence on one's health.

The second research method was the scale of average own efficacy – Generalized Self-Efficacy Scale, GSES (Schwarzer, Jeruzalem 1992). This scale was adapted to be used in many various countries (Schultz 2002), herein Poland. The authors of Polish version are abovementioned scientists and Zygfryd Juczyński (Juczyński 2001). The scale consists of 10 general statements concerning the questions how to manage different situations in life, how to face up problems as own knowledge about own efficacy. The respondents have to define veracity of these statements from 1-4 scale in which 1 refers to 'no', 2 refers to 'rather no, 3 refers to 'rather yes', and 4 refers to 'yes'.

The vast majority of respondents (40%) are children who come from families in which parents graduated from the university (fig. 1).

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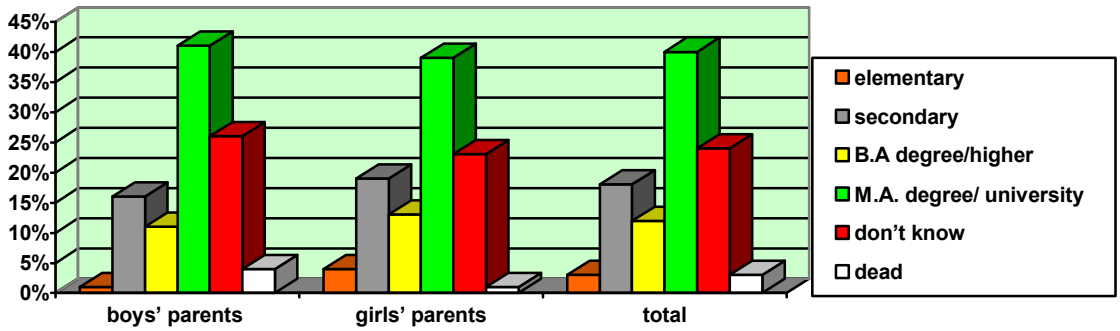

Fig. 1. Education of respondents' parents, n=229

Results

On the basis of the carried out research it has been stated that the level of respondents' knowledge about self-efficacy can be evaluated as satisfactory as on average 84% of respondents circled that a specific situation is rather real or real (marking three or four on the scale). These results make us know that young people are able to cope with hardships which they face up in real life, they are able to solve these problem respecting the second person at the same time.

From the analysis of self-efficacy one can come to conclusion that respondents most often chose the third point on the scale which referred to the answer 'rather yes'. This choice was made by from 45% to 62% of respondents, however, among those were girls more often. Respondents much seldom chose option 'yes'. This answer was chosen by 17% to 43% of respondents. In this case the group of respondents sure in 100% were the boys. In two other groups the number of respondents was low. In case of the answer 'rather no' it varied from 3% to 20%, and in case of the answer referring to 'no' it varied from 1% to 5%.

The average evaluation was higher in case of boys in 90% of cases. That is why in the final conclusion, the results acquired by girls (30,39) was lower than boys (32,05) by 1,66%. The average result in GSES scale in case of both sexes reached 31,2 points (78%)

Among 14 situations which were given in the test one shows that young people do not like and do not want to lose when competing with peers. As many as 38,6% of respondents will not admit to the referee not noticing the mistake and that he has made a mistake. 28,07% of respondents decides to apologies to the opponent after the match what will not change the final result of the game. According to the rules of fair play 33,33% out of 228 of respondents decided to stop the game and the referee about the mistake (table 2).

Table.*2. The results of specific choices concerning the observance of Fair Play rules by 13-15-year old teenagers (n=228)*

M	F	In total	9. I take part in interschool sport competition. The referee has not noticed the mistake and gave me the point. How would I behave in this situation?
30,97%	35,65%	33,33%	A. I stop the game and say the point should be given to the opponent. I want to win with Fair Play rules.
40,7%	36,52%	38,6%	B. I say nothing. I know that each point gives me certainty to win, and I want to want to win no matter what happens.
28,07%	27,83%	28,07%	C. I do not admit to the mistake, but I decide to apologia to the opponent after the match..

Among the choices made the respondents these were women who chose more often the group of answers defined as model (64,3% of cases).

Adding the answers achieved in situational test which were chosen in majority of cases by the respondents the result of 36 points was acquired out of 42 possible.

Discussion

The statement made by Locke and latham (19900 that the higher the belief in self-efficacy, the higher the aims are set by people and the stronger is their involvement in the desired behaviour is the most relevant, even though there some obstacles and hardships. The belief in own activities has a huge influence on taking up and persistence of pro-health behaviours (Kok and co-authors 1992, Ogińska –Bulik and co-authors 1996, Schwarzem and co-authors 1996).

Using the GSES scale self-efficacy and belief in own teenagers activities were measured. The average result of a single student was 32,2. the achieved results are higher than in case of students participating in the survey

conducted by Rasińska (2010) by 1,46. However, in comparison with the results achieved by Brudnik (2009) in conducted survey on teachers this result was lower by 0,24 (table 3) In all these three surveys males had higher average results. In comparison to older people it shows that teenagers are resourceful, self-confident and full of belief in their activities in regard to faced problem or obstacle.

Table. 3. Average results of GSES scale- of different age groups

Specification	N	Result
Respondents		
Grammar School goers*	229	31,2
girls	115	30,39
boys	114	32.05
Students ***	362	29,74
Females	278	29,32
Males	84	31,11
Teachers **	404	31,44
Females	310	30,87
Males	94	31,91

Source: own research*, Brudnik **(2009) Rasińska *** (2010)
N- number

On the basis of the situational test it can be observed that in the group of the worst answer option, which was chosen by the majority of respondents is only one situation concerning the observance of Fair Play rules. In the group of neutral answers chosen by the majority of respondents were the following situations concerning: lack of criteria while doing the shopping unless they have a list; although having a chronic cold they do not go to the doctor; they choose only going out with friends instead of joining this activity with cleaning the city, they spend additional free time in passive way or performing duties. The third most numerous group contains the correct – proper answers. In this group there are 9 out of 14 situations concerning: healthy motivation to take up sport and coping with failure; absolute care of personal hygiene and teeth, refusing to drink alcohol and smoking cigarettes and making others aware (educating others), taking care of own and others safety while relaxing; getting used to new school environment and spending weekend in appropriate way. Still better choices were made by girls.

Łukasik (2003) in her research observed that in order to raise the feeling of self-efficacy and strengthen the healthy behaviours it is crucial to introduce classes of health education. Sometimes it is lack of knowledge which causes low self-esteem and unwillingness to take some actions.

Conclusions

1. The average result in GSES scale is 31,2 points what gives 78%. It is a high result which means that teenagers can manage difficult situations and they are able to overcome the obstacles faced on the way to achieve their goal. The differences observed between the respondents were slight. Boys achieved the result of 32,05 points and girls were worse by 1,66 points.
2. Yes, teenagers often choose healthy behaviours. Analyzing the situational test teenagers achieved the result of 36 points what gives 85,7%. It is a high result. Pro-health behaviours have been chosen by girls more often.
3. In the survey two research methods have been applied which acquired high results (GSES scale 78% and Situational Test 85,7%). The self-efficacy has probably the influence on permanent and wise decision making in regard to own health.

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NUTRIONAL NEEDS OF ATHLETES

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Annotation. Aim – is to provide a comprehensive information regarding the nutritional needs of athletes, followed by female athletes who have a higher necessity for Iron. Sports and nutrition are directly related to each other. Taking into consideration the fact that sports person need more energy to carry out their sporting activity effectively, it becomes of prime importance to take care for sports performance. Athletes must supposedly eat the perfect ratio of Protein, carbohydrate and fat at each meal and snack to control the hormonal systems and thus reach their maximum performance and ideal weight .The carbohydrate/protein/fat ratio of the 40-30-30 diet allegedly maintains the proper balance between the hormones insulin and glucagon. The present review focuses on the intake for a wholesome nutrient and well balanced diet for better performance among male as well as female athletes.
Keywords: sports performance, endurance sports, Glycemic index, female athletes, hemodilution.

Introduction

Training to improve performance in sports is undoubtedly necessary, however over the years, it has been realized that nutrition is also critically important. Success in sports depends on three factors genetic endowments, the state of training and nutrition. Genetic constitution cannot be changed, specialized exercise training is the major means to improve athletic performance and proper nutrition is of paramount importance. As per the conference held by Sports Authority of India in 2005, Sports nutrition assumed critical importance, because long before deficiency symptoms start appearing, physical performance of the athlete declines. The level which permits the athlete to achieve the maximum possible physical performance should be the minimum level aimed in the sports nutrition.(Nutrition and Hydration Guidelines for excellence in Sports Performance, 2005).Requirement may vary from 12.5-25 Mega Joule (MJ) the higher values associated with high intensity endurance sports such as cross country running or skiing and marathon running. An optimal diet is one which consists of the supply of required nutrients is adequate amount to cover energy expenditure, tissue maintenance, repair and growth. The nutritional needs differ from individual to individual, and are based on age, sex, body size and composition, occupation, physiological condition etc. Nutritional requirements of athletes should take care into consideration the specific energy requirements of particular sports and phase of training and by the athlete's dietary preferences. There is no particular diet for optimal sports performance. However, there is a need for sound nutritional guidelines in planning and evaluating food intake of an athlete. Athlete's nutritional status can be assessed by the ABCDE method that is generally being used for population studies. Here 'A' implies for Anthropometrics which includes measurements such as weight, height and other physical parameters of athlete. Biochemical analysis includes recognizing signs and symptoms of deficiencies or excesses in the individual's body. Diet history is a method of assessment that indicates what a person has been eating over a period of time. Economic status is an additional factor that should also be taken into consideration when assessing one's nutritional intake. There are about 45 nutrients viz Glucose, essential fatty acids and amino acids, 13 Vitamins, 21 minerals and water which are obtained from a diet or supplemented in a diet.

Buskirk (1982) opined that the total caloric need is influenced by the body weight, the frequency of repetition of the event, category of sport taken and the length of practice during training. Training itself increases the daily caloric need by 5-40% depending on the nature of the exercise and the length of practice. Women athletes require 10% fewer calories to cover the energy need for each type of sport or during training. As per the guidelines for Nutrition and Hydration for excellence in sports and Nutrition (2005), athletes especially females and participants in endurance and aesthetic sports are chronically energy deficient. This energy deficiency impairs performance growth and health. Reproductive disorders in female athletes are caused by the low energy availability perhaps specifically by low carbohydrate availability and lot by the stress of exercise. Focus should be given on wholesome unrefined complex carbohydrates in the menu planning for athletes as they are rich in fiber, vitamins, minerals, phytochemicals, have essential fatty acid, antioxidants and promote satiety. These disorders can be prevented by dietary supplementation in compensation for exercise energy expenditure.

Aim – is to provide a comprehensive information regarding the nutritional needs of athletes, followed by female athletes who have a higher necessity for Iron.

Results.

Carbohydrate

They are the preferred source of energy for all body functions and muscular exertions and are necessary to assist other foods in digestion, assimilation, and elimination. It is generally recommended that at least 55% of total calories should be from carbohydrate for an average person (FAO/WHO/UNU, 1985, Technical Series No 724).Athletes need total carbohydrate to be closer to the WHO recommendation in order to properly store enough fuel for their events, especially for endurance competition. A minimal daily amount of carbohydrates recommended for an athlete is 300 grams if the total intake is 2000 K.cal

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Muscle cells utilize the energy provided by fats, carbohydrates and protein. In sports activities, however, protein as a source of energy is not desirable. Certain sports activities need additional amount of glycogen storage to be spared during the events. In such situations appropriate carbohydrate loading techniques may be adopted if the carbohydrate stores are below normal. However, recent studies have shown that as long as the intake of carbohydrates is meeting the recommended levels, carbohydrate loading is not desirable since it will limit intake of other essential nutrients which are required for optimal performance. The first source of glucose for the exercising muscle is its own glucose store. When this is depleted glycogenolysis and then gluconeogenesis maintain the glucose supply. During endurance exercise that exceeds 90 mins, such as marathon running, muscle glycogen stores become progressively lower. When they drop to critically low levels high intensity exercise cannot be maintained. In practical terms the athlete is exhausted and must either stop exercising or drastically reduce the pace. It is recommended that athletes in heavy training should consume a carbohydrate intake of 6-10 g/kg of body weight daily to prevent daily carbohydrate and glycogen depletion. The amount required depends on the athlete's total daily expenditure, type of sport, gender and environmental conditions. Hargreaves (1991) both recommend that carbohydrate with a moderate to high glycemic index be consumed after exercise. Research has demonstrated that a diet based on high Glycemic index carbohydrate foods promoted greater glycogen storage in the first 24 hours of recovery after strenuous exercise than an equal amount of carbohydrate eaten in the form of low GI index foods. Numerous studies have concluded that increased carbohydrate intake can improve capacity. Nilsson (1973) was of the opinion that, high carbohydrate diets optimize muscle and liver glycogen stores. Recent studies have also suggested that benefit of carbohydrate consumption is not limited to maintenance of glycogen stores, but also related to maintenance of Krebs cycle intermediates Spencer & Yan (1991) and preservation of the bio energetic state of exercising muscle Larson & Hesslink (1994). Sports nutrition guidelines recommend that 60-65% of total energy should come from CHO. It may be more appropriate; however, to base recommendations on body weight which is independent of energy intake Coyle (1992).Furthermore the low GI meal was found to maintain both glucose and free fatty acids at higher concentrations during the later stages of exercise. Staleness is a physiologic state caused by gradual depletion of the glycogen reserves in the body by strenuous endurance workouts even though the person may be consuming a typical carbohydrate intake. An athlete can optimize his/her glycogen reserves by gradually decreasing the intensity of exercise workouts several days prior to competition, while maintain a high complex carbohydrate intake. In glycogen loading the athlete trains at a high aerobic intensity and about one week before the event gradually reduces or tapers the duration of exercise on successive days. Carbohydrate represents 50-55% of calories during the first 3 days and then is increased to 70-75% of calories for the last 3 days before the competition. The pre event meal should be largely digested and absorbed before the event so as to minimize gastric upset and energy being expended to digest and absorb the food during the event.

According to Thomas & Brotherhood (1994) low GI meal eaten before an event prolongs endurance during strenuous exercise. The bio chemical findings suggest that the mechanism is associated with the ability to produce relatively low concentration of plasma glucose, insulin and lactate compared with the high GI meals in the period immediately after ingestion. Furthermore the low GI meals were found to maintain both glucose and free fatty acids at higher concentration during the later stages of exercise.

Protein – The Recommended Daily Allowance (RDA) for protein for most people is 0.8 grams per kilogram of body weight for endurance athletes and body builders. Power and endurance athletes appear to need protein 1.2-1.5 g/ Kg body weight. Endurance athletes may need additional protein for repair of damaged muscle fibers. The International center for sports Nutrition endorses the range of 1.0-1.5g/Kg body weight/day. Endurance athletes require a little more protein than power athletes as they retain some of this protein in their muscles. Some evidence exists that creatinine formed from glycine plus Arginine and Methionine may be beneficial. It is one of the most important nutrients in the maintenance of good health and vitality. It is of vital importance in the growth and development of all body tissues. The active body's use of proteins as a fuel to meet 2-5% of energy needs during rest and low/moderate exercise, while, it provides 10-15% of energy needs during endurance exercise. A carbohydrate rich diet spares protein from being used as fuel. Athletes do not generally need extra protein unless they are trying to gain muscle mass or they engage in endurance sports.

Fat –Moderate consumption of fat and a balance between saturated and unsaturated fats are desirable. For a balanced diet, the total dietary fat has to be reduced to less than 30 per cent of total calories whereas saturated fats intake has to reduce by 10 per cent of total calories.

Micronutrients-Apart from macro nutrients like carbohydrates, proteins and fats, the body requires micronutrients, minerals and vitamins in small quantities for its proper functioning. Micronutrients are required in micro quantities and include vitamins and minerals. These are required for growth and repair of body tissues, metabolic reactions and immune functions.

Vitamin E- It is needed for normal muscle function. Exercise is known to alter skeletal muscle blood flow. Exercise influences oxidation metabolism and Vitamin E may lower the oxidative stress associated with exercise.

Iron-Surveys of athletic group have shown that both males and females, particularly those involved in intense endurance sports, have hemoglobin concentration in the low and mid range of the population norms. This is referred to as sports anemia. In most athletes the lower hemoglobin is caused by a training which induces increase in plasma volume that dilutes the Red Blood Cell. The increase in blood plasma is a beneficial adaptation to aerobic exercise and should be called dilutional pseudo anemia. Some athletes however develop true anemia which is a deficiency in the total amount of circulating Hemoglobin or RBC. The extent of iron deficiency in athletes appears to be higher than in the

general population, without question elite runners have lower plasma ferritin levels than the general population. This difference may be attributed to hemodilution. Transfer of absorbed iron into larger muscles and RBC or altered iron metabolism comprehensive examination in male endurance athletes have concluded that psuedoanemia or Iron deficiency existed when all markers of iron status were considered.

Dietary fiber-Dietary fiber, or sometimes **roughage** or **ruffage** is the indigestible portion of plant foods having two main components:

- Insoluble fiber that is metabolically inert, absorbing water as it moves through the digestive system, easing defecation.
- Soluble fiber absorbs water to become a gelatinous, viscous substance and is fermented by bacteria in the digestive tract. Insoluble fiber has bulking action and is not fermented Anderson & Baird (2009). The recommendation for a healthy amount of dietary fiber varies between 25 and 48 grams a day for diets ranging from 3000-7000 k.cal per day. In some cultures and in ancient diets 60-100 grams of fiber was consumed. Some examples of fibers naturally found in foods are hemicelluloses, pectin, and gums. The foods with the highest amounts of fiber are beans, legumes and peas. In addition to the weight control benefit and reduced blood cholesterol and colon disease, fiber also benefits health by promoting softer larger stool and regularity, by slowing glucose absorption and reducing hemorrhoids and diverticulitis.

Water

- Water is required for a variety of reasons; It transports nutrients and gases to cells, wastes from cells, as also other substances
- It combines with viscous molecules to form lubricating fluids for joints, for smooth movement of food through digestive tract etc.
- It helps maintain body temperature
- It maintains cellular shape, is an integral part of cell membrane, cushions organs and helps maintain body structures.

Pre event Rehydration

Athletes should consume 1.5 to 3 L of fluid above their normal intake the day before the event.

Athletes should consume 0.5 L of water 1-2 hours prior to the event and 0.6 L of water or other fluids 10-15 minutes before event.

Empty their bladder 15 minutes prior to the event is a must.

Athletes should drink cool water during the event as it is absorbed faster and cools the body better than water at room temperature.

During – event Hydration

Athletes should drink 150 ml to 250 ml every 10-15 minutes to maintain fluid balance.

Athletes should sip the water, and not gulp it down.

Performance Enhancing Substances

The following broad categories of performance enhancing substances and methods were banned by the International Olympic Committee (IOC) in 2005 .These categories are

1 Stimulant
2 Narcotic Analgesics
3 Androgenic anabolic steroids
4 β- Blockers
5 β-2agonists
6 Alcohols
7 Diuretics and other estrogenic activity
8 Peptide hormones and analogues
9 Substances that alter the integrity of urine samples.
10 Enhancers of oxygen transport
11 Chemical & physical manipulations
12 Agents with other anti- estrogenic activity
13 Gene doping
14 Cannabinoids
15 Glucocorticosteroids

Sports Supplement

Sports supplement including vitamin and mineral supplements should be taken only in case of their deficiency and only after consulting a Doctor and of prescribed potencies to avoid any adverse effect on health. Some athletes take excessive amounts of supplements under the mistaken belief that it will improve performance. Following points need to be noted;

- While calcium is good for woman's health too much of anything can cause problems. The body has a natural mechanism for protecting against calcium overdose, but it can be over-ridden if more than 4 grams of calcium are consumed per day. The two most serious effects of calcium overdose are renal damage and the deposit of calcium in other parts of the body besides bone.

- While it is important to meet the body's requirements for vitamins and minerals, it is sometimes dangerous to exceed these needs. Taking extra vitamins and minerals or any other nutrient will not make an athlete bigger, stronger or faster.
- The majority of supplements have not been researched thoroughly, especially on teenage athletes. In addition long term studies on safety are not extensively available. Stimulating herbs such as guarana and yohimbine can cause anxiety and dizziness. One such dangerous example is ephedra, which can have adverse effects such as nervousness, irregular heartbeat, and can be deadly in some cases.
- Creatine supplements may negatively affect kidney function and promote dehydration.
- Amino acid and protein supplements, while not dangerous, are an unnecessary expense when diet alone can meet protein needs. Hard training and proper nutrition, and food should be the first priority in an athlete's nutrition program.

Elimination of free radicals

Increased physical activity may necessitate higher input of vitamins particularly vitamins C, B_2, A and E. But this increased input would come from diet if energy expenditure is met from energy input. For most athletes there is, therefore no need for vitamin supplements. However in respect of athletes who have to restrict body weight and therefore no need for vitamin supplements. However in respect of Athletes who have to restrict body weight and therefore their diet there is likely to be inadequacy of micronutrients and supplementation will become necessary.

Losses of minerals can occur from strenuous exercises. Losses of iron and magnesium are likely from sweat particularly in hot conditions. If dietary intake fails to compensate for these losses athletic performance will be adversely affected. Hence iron, zinc and magnesium supplements may be necessary. But these should not exceed 1-2 times the RDA. Excessive intake of minerals can be toxic. Female athletes who are trained in hot conditions are likely to lose iron and calcium. They will require calcium supplements to maintain healthy bones.

Nutrition for Female Athletes-

The Ideal diet is based on the woman's weight and consists of percentages of various food types proportional to that weight. In general, for female athletes, the recommended allowances for macro nutrients are similar to those recommended for male counterparts. Care should be taken in the case of micronutrients especially iron and calcium, because of additional physiological demands of female athletes. In addition to iron and calcium the meals should be rich in B-12, Folate and zinc. Diets should include 30 mg of iron, 800-1200 mg of calcium and 1.3 mg of B-12 a day. Calcium needs can be met by 3 to 4 servings of low fat milk, yogurt or other calcium rich foods. Calcium absorption requires adequate amount of protein, lactose, vitamin D and acidic foods.

Weight training is important to the female athlete. Women need to balance upper and lower body weight to achieve overall body strength. Weight lifting programs that are done 2 or 3 times a week increase bone density, decrease fat and improve muscle definition.

Conclusion.

Training is an important part of sports performance but diet also plays a major role. While the calorie requirements varied with the sports categories it is now found that in the same category of sports energy expenditure at different stages of training varied a good deal. These variations have to be reflected in energy intake to prevent undesired weight gain. Hydration is as critical as nutrition performance will be seriously affected if fluid balance is disturbed.

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