

HEALTH, PHYSICAL EDUCATION AND PHYSICAL DEVELOPMENT OF STUDENTS IN HISTORICALLY AND PERSONALLY DEVELOPING PARADIGM

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Annotation. It is considered the general health situation of the population of Europe. It is shown that in the last decade in the European Union there is a steady trend towards better health. It is noted that in the countries of the former Soviet Union, including Ukraine, the reverse process. Revealed the possibility of improved system of physical education students in improving indicators of physical development, functional status and health of students and the general population. It is noted that the intense physical activity of young people is only 3 - 4 minutes per day, and moderate and total - just over 1 hour. It is noted that the enhancement of the educational component of university discipline Physical Education is defined professional and personal characteristics of teachers of physical education departments, their willingness to self-improvement and development. The prospects for the use of personal-oriented campaign in the reform of university academic discipline Physical Education.

Keywords: health, population, physical education, student, physical condition, functional status.

Introduction

Since 2005 governments of most countries, members of EU, have accepted the concept, which implies not only struggle with diseases but also propaganda of healthy life style, reduction of inequality in reaching of healthy state. In the whole the health of EU population has improved for recent decades and it is witnessed by increase of expected life duration with birth of a child. However, in different regions of European continent there is progressing inequality in life duration, which is conditioned by gender, social and economical factors [The European health report 2009: health and health systems. <http://www.euro.who.int/PubRequest?language=Russian>.].

Data about health and mortality of different European countries significantly differ. I.e., in CIS, including countries of Central Asia and Kazakhstan (CARK), in general, higher levels of morbidity and mortality are registered. In European region the highest expected life duration with child's birth was 82.0 years in Switzerland (2006) and the lowest – 66.4 years- in Kazakhstan (2007).

On European continent the main reason of mortality is chronic non-catching diseases, which are responsible for more than 85% from 9 million deaths, which occurred, by calculated data, between 2003 and 2007. Diseases of blood circulating system are the main reason of death and determine 48% of all deaths, varying from 35% in EU countries to 65% in CIS countries, with it, gradually reducing in most of EU countries [The European health report 2009 : health and health systems. <http://www.euro.who.int/PubRequest?language=Russian>.].

For reference: in Ukraine negative increment of population, increase of mortality and reduction of population's health are observed [2].

It has been established that diseases, which condition nearly 40% of the lost DALY (disability-adjusted life-years), can be reduced. Because, they, as usual, are connected with smoking, alcohol drinking and accidents at transport. The quality of eating and physical activity also play important role [The European health report 2009 : health and health systems. <http://www.euro.who.int/PubRequest?language=Russian>.].

The topic of population's health, including the health of students, is important because it is exactly that informative complex, social-hygienic indicator, which generalizes biological, demographic and social processes, intrinsic to the given society, reflects the level of its economical and cultural development. Thus, health is a reliable integral indicator of life quality of a country's population in its objective manifestations [6, pg.70]. It is well known, that physical activity decreases the risk of appearance of different diseases, including colon cancer, hypertension, diabetes, not connected with deficit of insulin, osteoporosis and depressive states [13]. While sedentary life is the main independent factor of risk, for example, of ischemic heart disease [12].

Purpose, tasks of the work, material and methods

The purpose of the research is to analyze publications of leading domestic and foreign authors, to evaluate the existing situation in the universities of Ukraine and determine the prospects of perfection of students' physical education.

The methods and organization of the research: review of scientific-research literature, theoretical analysis and synthesis. The research was carried out at department of physical education and sports of Donetsk national university.

Results of the research

Physical culture-health improving activity in HEEs of many foreign countries implies organic integrity of efforts of states and governments, different public and private organizations and institutions of this field of educational process. In countries, in which principle of government's non-interference in HEE's physical education is prevailing, physical culture and sports activity, though it is considered socially significant, reflects free and autonomous initiative of HEEs themselves that, as experience shows, owing to creative approaches, often is justified and efficient. A bright

example of such model is US, where physical culture and sports in HEEs do not receive direct financial assistance from federal government [7].

In developing states on the contrary, the model of “interference” in physical culture and sports sphere of HEEs is acting; governments take responsibility and liability on their development. In such countries the responsibility for physical culture and sports is entrusted on certain ministries, councils, committees on central level [7, pg.102].

For example, in Algeria the tasks of ministry of youth and sports are: scientific development and formation of national system of physical education in educational establishments; preparation and effective using of physical culture specialists; perfection of infrastructure, based on principles of state governing; development of material base and its optimal application; wide attraction of pupils and students of different age to practicing of physical culture and sports. Besides, it is: development of sports, including sports of the highest achievements; development and realization of sports competitions’ system, ensuring maximally mass character of physical culture movement and increasing of sportsmanship; coordination of production plans and distribution of sports equipment; development of plans of scientific researches in the field of physical culture and sports; organization of medical provision; using of mass media for propaganda of physical culture and sports [7, pg.102-103]. It is evidently that approximately in the same scope governmental participation in development of HEE’s physical education is declared in Ukraine.

Physical development, as well as students' health, was regarded in doctrine of physical education, which was characteristic for USSR, also as exclusive prerogative of appropriate organizations’ and specialists’ efforts. With it a student was regarded as an object of monitoring, videlicet as an executor of volition of physical education instructors, whose efforts were concentrated on training motion actions and selecting of exercises for development of trainees’ physical qualities. Command system of physical education process, built on relations: subject (instructor) – object (student), is remarkable by the fact that the highest results are always demonstrated by students in the period of physical culture trainings and are noticeably lost after finishing of physical culture course.

It has been established that recent years in CIS countries students’ level of physical preparedness and functional state have reducing from the first to the third year of study. The trend of indicators’ reduction is observed both in the tests, which reflect the levels of quickness, quickness-power and strength qualities, and in the tests, which evaluate progressing of endurance. With it the highest rates of results’ worsening were marked in tests “chin ups” and «PWC₁₇₀», which reflect the level of power endurance and aerobic workability [4, pg.43].

It should be noted that in the present time, participation in physical culture activity is being reduced in all age groups of population of many countries. By the data of domestic and foreign authors, by the 21st year of life, i.e., by graduation from HEE, regular physical exercises are practiced only by not more than 40% of men and 30% of women [11]. With mature these negative trends increase in other countries as well: only 22% of mature Americans participate in regular physical activity of high intensity [11]. Meanwhile, sharp reduction of physical activity is noticed among young people (15 - 19 years old) and people of first maturity (21 - 25 years old). About 50 % of our student practice physical exercise not longer than 2-3 hours a week and 45 % do not practice them at all [5].

At the same time, results of national questionings, which were carried out in the USA, showed that approximately two third (63,7 %) of secondary schools’ pupils, 37,6 % of college students and 14,0 % of adults regularly participate in highly intensive physical culture activity. Regular participation in physical culture activity of moderate intensity turned out to be more steady in different age groups (pupils of secondary schools - 21,1 %, college students - 19,5 % and adults - 19,7 %) comparing with practicing of highly intensive physical culture activity [12]. These facts witness that *educational establishments are those key links, in which it is possible to successfully carry out the policy of attraction to regular physical culture exercises and to form social set for motion- active life style.*

In one of demonstrative for us experiments in researching of physical state, the results of which we shall discuss, owing to their importance for evaluation of situation in modern Russia, more than 1000 students of St. Petersburg state polytechnic university took part [3, pg. 3-4].

In this experiment, evaluation of physical state was carried out by the following indicators: the level of systolic BP, heart beat frequency (HBF) in rest, vital capacity of lungs (VCL), time of HBF restoration after dozed physical load, level of somatic health (by G.L. Apanasenko, 1992). Evaluation of physical preparedness was fulfilled by the results of compulsory tests, recommended by “Physical culture” discipline’s program for HEE of Russian Federation: 1) 100 m run, 2) 3000 m run for men and 2000 m run for women, 3) chin ups for men and rising torso from lying position into sitting position (hands behind neck) 4) by general quantity of points for fulfillment of the mentioned above tests.

For studying of indicators’ dynamics of students’ physical state in educational process we tested the students of five groups of sports specializations, which were related to main department: “Handball” (n = 46), “Volleyball” (n = 57), “Football” (n = 45), “Gymnastics” (n = 55), “Basketball (n = 56) and other at the 1st and 2nd years of study (in total four semesters).

The level of somatic health of students (by G.L. Apanasenko, 1992), who trained handball, was $5,19 \pm 0,43$ points, football - $3,85 \pm 0,53$, volleyball - $5,79 \pm 0,55$, wrestling - $4,74 \pm 0,64$ points and turned out to be “lower than middle” (the 2nd level of somatic health) of students, who trained weight lifting - $7,18 \pm 0,36$, - “middle” (3rd level), basketball - $6,77 \pm 0,49$ and swimming - $6,80 \pm 0,20$ points – closer to “middle”, to be more exact at the border of the 2nd and 3rd levels). The level of somatic health of gymnasts (female) is $-3,71 \pm 0,34$ points and is on the border of the 1st (“low”) and 2nd (“lower than middle”) levels. Considering that “safety level” of somatic health is between the 3rd and 4th levels and corresponds to 12 points by scale of somatic health evaluation, we can conclude that health levels of all

tested students groups is lower than the threshold, which is responsible for adapting abilities of organism and do not protect organism from influence of diseases risk factors.

Generalized physical state data of students of St. Petersburg state polytechnic university are also of interest. The received information showed that actually the levels of men's and women's somatic health are the same – about 6 points – on the border between “middle” and “lower than middle” levels; generalized indicator of physical preparedness level is about 3 points and says about relatively low anaerobic- aerobic endurance, which, to the greatest extent, determines the level of human physical state.

With comparing indicators of students physical state in this research it was found, that there is actually no significant difference, depending on sports specialization. So, unsatisfactory results of 3000 m run, probably, says about low level of students' general physical preparedness that, in its turn, make their level of somatic health low.

In the next experiment 389 first year students of $17.6 \pm 0,02$ years old of Surgut state pedagogical university (SurSPU) took part. In the frames of pedagogical influence in order to change behavior activity, connected with health 344 students (163 boys and 181 girls) completely fulfilled seven days report of time budget (SRTB) and filled in questionnaire on physical activity for students (PAQ-S), which was developed on the base of recommendations of American college of sports medicine (ACSM) and London institution of psychiatry. The norm of response for PAQ-S was 88,4 %.

The obtained data witness that intensive physical activity of boys and girls is only 3-4 minutes a day, while moderate and general ones turned out to be a little higher than 1 hour. Let us remember that on the base of ACSM recommendations intensive physical activity includes run, walking with high speed, sport dances, aerobics and etc., i.e. kinds of activity, resulting in significant rising of pulse frequency, breathing with rich sweating (work in zone 50 ± 75 % of aerobic capacity or 6 - 9 MET). Moderate physical activity includes most kinds of physical labor, walking, physical exercises with moderate rising of pulse frequency, breathing with insignificant sweating (work in zone 25 ± 50 % of aerobic capacity or 3 - 6 MET).

The data concerning the time, which was spent for SurSPU students' physical activity of moderate intensity (57 min. per day – girls and 67 min. per day – boys) correspond to information of other authors: 60 min. per day of physical activity for Holland teenagers, independent on their sex, 52 min. per day (boys) in England or two times higher than Swedish teenagers (26 min. per day – boys and 32 min. per day – girls). The girls from England – 15 min. per day; American 18 years old boys – 30 min. per day and the girls of the same age – 24 min. per day. At the same time Surgut students spend much less time for physical activity of high intensity (in average 3-4 min. per day) that is less in comparison with senior pupils from Northern Ireland (7 min. per day – boys and 12 min. per day – girls).

Important results were obtained with studying of difficulties, connected with physical activity, self-feeling and relations with other people. In particular, it was detected that 42,3 % of SurSPU boys and 46,9 % of girls have little, but nearly 10 % of girls rather serious difficulties of behavior character. Duration of most of light difficulties, which are common for people in the process of their communication, varies within the limits 1 - 5 months. 11,6 % of boys and 16 % of girls have serious difficulties, which continue from 6 months to 1 year. 22 % of boys and 38 % of girls are insignificantly upset by their difficulties. 10% of girls are seriously upset by difficulties of communication.

With it, most of students do not face any difficulties and have no behavioral problems in domestic communication, friendship, leisure. However, the fact, that insignificant and serious difficulties in these parameters are confidently higher among girls than among boys, attracts attention. The fifth part of girls of the tested sample has definite problems in life, family and friendship and for every fourth girl-student these difficulties are obstacles in her study at university. In leisure 14% of boys and 23% of girls have insignificant difficulties, 6% of boys and 4% of girls have serious ones.

Concerning Ukraine, in our country we can observe permanent reduction of indicators of HEE (of I-III levels of accreditation) students' physical preparedness and it witnesses that command approach to physical education is, like in post-Soviet Russia inefficient [7, pg.6].

E.g., for the students of National agrarian university, most of whom are from *rural area*, the following diseases are characteristic: abnormalities of posture (scoliosis) – 35.4%, therapeutic pathologies – 15.7%, diseases of urogenital system – 8.6%, eyes – 9.9%, gynecologic diseases – 4.2%, liver – 4.0%, cardio-vascular system – 3.6%, gastric intestine diseases – 3.6%, endocrine system – 3.6% and psycho-neurologic – 1.7% [10, pg.6].

In HEE, in which mainly *urban youth* study, morbidity picture is, to some extent, different. In 2010-2011 in National mine university (Dnepropetrovsk) there prevailed: cardio-vascular system's diseases -39.02%, diseases of supporting motor system – 26.83%, eyes diseases – 14.63%, endocrine and secretory systems – 7.32% each, all other diseases – 4.88% [10, pg.5]. These data are confirmed by the results of other researches as well.

It has also been noticed that medical reports of three medical boards: medical examination after leaving school, medical examination of first year students and medical examination by draft board -0 very often do not coincide either by diagnosis or by final decision concerning attendance of physical culture classes, which are connected with physical loads. General trend is that physical culture marks in secondary school have “satisfactory” level very seldom; great majority of applicants have “good” and “excellent” in “Physical culture”. But in the process of control testing at department of physical education of HEE these marks in most cases are not confirmed and do not comply with the data of physical preparedness of school-leavers, entering HEEs.

As G.L. Apanasenko writes: “Health is a category not only medical-biological, but social as well. It is true that biological principle – is a human implementator of all social. Thus, fulfillment of biological and social functions by

an individual can be interpreted as manifestation of health. The higher individual's ability to realize his biological and social function is, the higher is his level of health" [1, pg. 36]. The author of the cited article notes that ability to manifest one's health, i.e., to realize biological and social functions are significantly influenced by psychic qualities of a person, whose importance we describe below.

Regarding specificities of psychic load's components, which influence on human health, we can say that the more sum of negative factors in informational-operational, situational and personality's components is the higher is the level of psychic load's influence on organism and psychic manifestations of a person in general.

The level of activity of self-regulation mechanisms is an integral manifestation of main components of psychic load that is why it is important to first of all consider and study psychic mechanisms of human self regulation in the process of his adapting to conditions of life activity, including starting of physical culture activity.

Self-regulation is defined as mechanism of inner psychic human activity in the process of adapting to conditions of life activity. It is a mechanism of mobilizing and actualizing of human abilities, compensation and regulation of psychic manifestations in connection with demands and aims of life activity. Personality's ability to regulate and organize his life as something integral, which subordinates to its aims, values – is the highest level and genuine quality of a subject of life.

Let us note that on post-Soviet area the quantity of students, who study in special health groups, has already approached 40 %. With it, only 18% from the questioned students in Byelorussia, which is a supporter of Soviet doctrine of physical education, consider that they have sufficient level of knowledge, required for self control of own organism.

It is also important to establish what are distinctive features of physical culture students' own health, of students, who will be, possibly future instructors of "Physical education" in HEEs and civil position and professional competence of whose will influence on the culture of health of those, whom they will train?

Let us refer to the research, in the course of which 400 students of Russian cities (Moscow, Vladimir, Voronezh) and three cities of Southern Korea (Seoul, Kang Chzhu, Ken Chzhu) were questioned.

According to he received answers 54.2% of Russian students and 62.2% of Korean students of Institutions of physical culture have motivation for health maintaining by physical culture/ 28.0% of Russian students and 36.9% of Korean students try to ensure healthy eating, 27.8% of Russian students and 41.9% of Korean constantly observe their weight and try to take measures for its preservation. 10.8% of Korean students answered that they use alcohol and 26.5% of Russian students answered that they use alcohol often [8]. As it can be seen, the supplied data are unfavorable for Russian.

Concerning way of life, let us mark out features, which are characteristic for healthy life style. Having analyzed different definitions, we stopped on definition, which we follow in the course of our research: "Healthy life-style (HLS) is a complex of health improving measures, which ensure harmonious development and strengthening of health, increase of human workability, prolongation of creative life. It includes: fruitful labor activity, giving up harmful habits, optimal motion regime as a kind of regular physical culture trainings and sports" [6, pg.73]. Accepting of such HLS sense gives clear idea about required orientation of physical education and non professional physical education of students, as its important component.

It is known that most of risk factors, determining the level of human health, depend on subjective factors, videlicet, on behavioral peculiarities. Analysis of these factors permits to imagine orientation of educational component in "Physical education" discipline at HEE. With it, scholarship in health preservation sphere is manifested in the fact that up to 95% of students do not have systemic knowledge and belief in importance of HLS [6].

The same subjective factors determine orientation, content and results of "Physical education" discipline's teaching at HEE: "Analysis of physical education state, carried out by scientists in more than 200 higher educational establishments of Ukraine, determined, ...actual system of students' physical education...is inefficient. It does not ensure to full extent psychophysical readiness of higher educational establishments' graduates to life activity and professional labor; 60% of young specialists, who come to production, are not physically ready in regime, rate and intensity, which are required by market economy" [9, pg.216].

Summary

Traditional system of authoritarian, clearly programmed, "grouped" physical education gives temporary, usually only visible, effect, expressed though passing control tests in physical training. However, it is known, that after passing the last test, student, who has no actualized value "to be healthy", does not understand the motives of physical culture trainings, has no system of competences, permitting to monitor his own workability and health, has no even initial experience of independent training, becomes passive from physical culture point of view.

Educational aspect in the course of students' physical education shall increase psychological and valeologic components of their professionally-oriented competences, independent on the chosen specialty. With it, increasing of educational component of "Physical culture" discipline at HEE will be to large extent determined by professional and personal characteristics of physical culture departments' instructors, by their readiness for self perfection and development.

In the course of further researches, it is necessary to find out the place, which is determined by students for the topic of improvement and maintenance of own health in general structure of their life activity. It is necessary to establish the peculiarities of personality-oriented physical education in the course of study at HEE by the chosen

specialty, including orientation and content of non professional physical education – important aspect of “Physical education” discipline at HEE.

At the same time, situation in the system of special, professional physical culture education permits to assume that one of important reasons of advanced technologies’ slow mastering to large extent is connected with the absence of pedagogic system of physical culture institutions students’ attraction to means of search, analysis and application of existing scientific data about processes of renewal of future professional activity’s forms and content.

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