

**GROUND OF MAINTENANCE OF MODEL OF HEALTH OF SAVING TECHNOLOGIES OF STUDENTS OF THE SPECIAL MEDICAL EDUCATIONAL SEPARATION OF PHYSICAL EDUCATION FACILITIES**

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**Annotation.** The psychological pedagogical problems of physical development of students are considered with a rejection in a state of health. Experience of physical education of students of task medical force is studied. The structural functional model of process of physical education of students is developed with the use of health of saving technologies. Over 5000 students took part in researches. It is set that morphometric indexes are most closely associate. Intercommunications of indexes of level of development of physical qualities specify on insufficient differentiation in mechanisms which determine the structure of physical preparedness of students. Recommendations of model physical possibilities of students are resulted. Models are instrumental in an estimation individual potential possibility of organism. Models allow to utilize information for planning and leadthrough of a health educational educate process on physical education. Possibilities of determination of volume of the physical loading are shown taking into account a floor, nosology of diseases and state of physical preparedness of students.

**Keywords:** health, technology, model, students, physical, education, facilities.

**Introduction.**

The restructuring of higher education in Ukraine provides fundamental and comprehensive improvement of training future specialists for the national economy. Physical education in the educational process of the institution is a tool that solves one of the parties to such training, promoting individual development of student development and improvement of its professional-skills and qualities [2, 3, 10, 11].

Implementation of effective physical education of students in Ukraine is an urgent problem whose solution is essential for the development of society and the state, production, physical and spiritual development of the young generation in the present and in the future [4, 8].

The systems theoretical-methodological and empirical analysis of the literature on the issue of physical education of students of special medical groups in higher educational institutions of Ukraine gives grounds to assert that physical education has traditionally recognized and proved an important factor in ensuring the capacity of students, effective formation of its nosological health and preparation for active life and future high-performance work [1, 6, 9].

It is shown that the level of health as a result of interaction with the environment is constantly fluctuating: health – a dynamic attribute of human life: when person is sick, then the level of his health reduced (sometimes to zero – death), when person is recovering – the level of health increased, but never reached full health. Any recovery – is a new health.

Thus, the culture of health – is internally recognized human need to support, strengthen and improve their physical, mental, emotional, reproductive, social, personal and spiritual health.

Students' life takes place in an ever increased nervous tension. Scientists and educators say the constant increase in the number of school and university students, which have a higher anxiety, self-confidence, capabilities, and emotional instability. Personal anxiety has a negative effect on behavior, attitude in society, success in learning, and the development of adaptive capacities of students in high schools [1, 5, 7]. Dynamic of kinds of disease among first-year students is increasing every year, as evidenced by performance on NUB&N of Ukraine according to the student clinic data (Fig. 1).

**Aim, task, materials and methods.**

*Aim of work* – to develop a model, theoretically justified and experimentally verify the theoretical and methodological foundations of health saving technologies in physical education of students of special medical group of higher educational establishment.

*Tasks:*

1. To make theoretical and methodological analysis of the problem of physical education functioning of special medical groups students in higher educational institutions of Ukraine.
2. To identify the impact of health saving technology on physical health, morphofunctional state of students of special medical groups.

*Methods of research.* To attain these objectives the following methods were used, namely: analysis and synthesis of scientific-methodical and professional literature, teacher observations, pedagogical experiment, the methods of determining the functional state of the organism and the level of physical fitness. Qualitative and quantitative analysis of the processing of the results of the experiment carried out by methods of variation statistics: correlation, regression, dispersive and factor analysis, t-criterion of Student and F-criterion of Fisher with the aim of evaluation of physical condition of students, test the effectiveness of formative experiment.

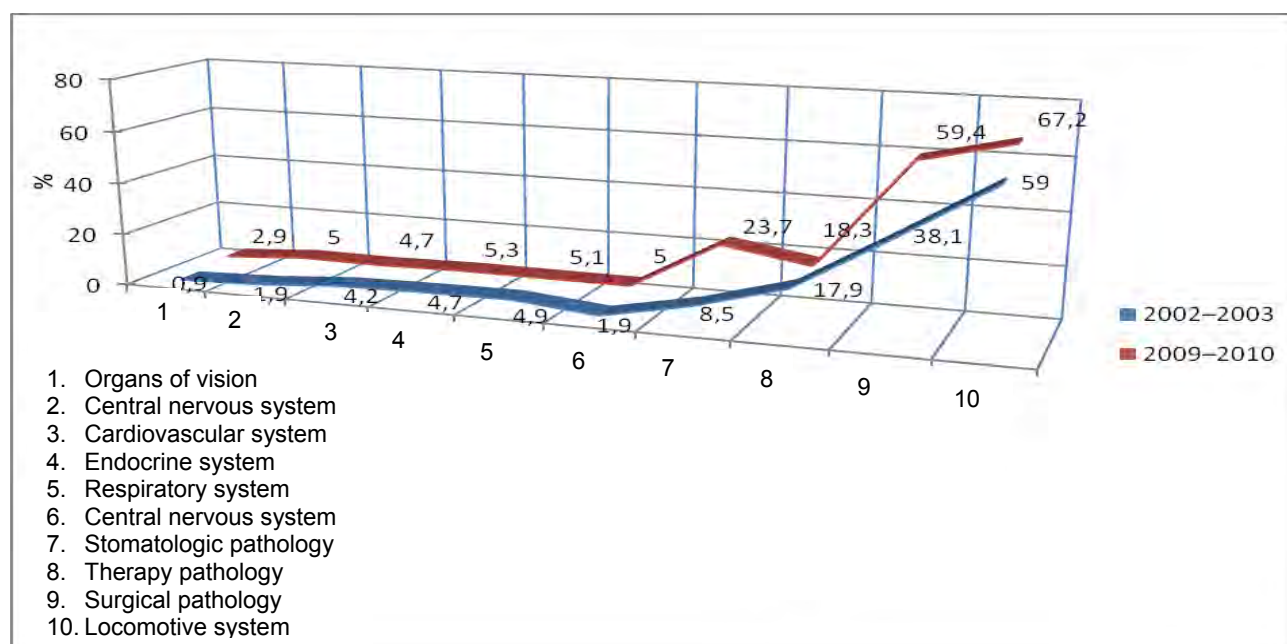


Fig.1. Comparative characteristics of disease among 1-year students of NUB&N of Ukraine during 2002-2003 and 2009-2010 educational year, %

**Organization of teaching experiments.** Participation in the experiment took more than 5166 students male and female, which were carried out on the basis of NUB&N of Ukraine (n-3625) KSAM (n-481), NUKHT (n-415), NTUU „ KPI ” (n-373), PF „KATY” NUBiP Ukraine (n-272) with the support and participation of teachers of mentioned universities.

#### Results.

Collegiate recognized that model (Fr. modele – sample) – is an imaginary or logistic implemented system that displays or plays the object of study (natural or social) and can modify it so that it study provides new information about this object. Lets describe the main components of the proposed ideal representation of the process of physical education of students of special medical groups by means of health saving technologies.

Target block of model contains the following components: *goal* – to provide students of special medical groups an opportunity to improve and promote health during the study period and in later life, to improve their physical fitness; *main tasks* – forming at students of special medical groups active and positive motivation for health-training exercise; the formation of knowledge system about physical culture and healthy lifestyle; improve health, promote correct formation and full development of body, prevention of diseases, ensuring a high level of physical condition and ability in the course of training; mastering the system of practical skills and training by basic types and forms of rational physical activity, formation, storage and improve health; acquiring the ability to perform state or departmental tests and norms at the requirements of educational qualification characteristics, etc. The purpose and objectives of the proposed physical education of students of special medical groups determined by modern *social requirements* for university graduates, declared in educational standards.

Developed model of physical education of students of special medical groups provides functioning of a process on the basis of realization a number of *methodological approaches and principles*. Methodological approaches (theories, concepts, hypotheses) in our study reflect the initial, key fundamental teaching position that have general scientific meaning of construction a process of physical education of students of special medical groups, ensuring its focus on the creation, preservation, enhancement and improvement of future health professionals (system, competence, active, student-centered).

**Systematic approach** to physical education of students of special medical groups provides an opportunity to explore this phenomenon as a complex, multi-level process that is constantly evolving and has a certain structure. On the other hand, the methodology of systematic approach provides combining together forms, methods and means of health saving technologies enables the construction of a model of definite process as methodical system.

**Competence approach** to physical education of students in the context of international considerations associated with the ability to act, actually live in a modern society. First of all, this educational methodology aims forming at personalities such abilities: autonomous (independent) action (the ability to protect and take care of correspondence, rights and interests of others; formulate and implement personal projects), interactive use of means (interactive ability to use language, symbols and texts; knowledge and information literacy; new interactive technologies), the ability to function in socially heterogeneous groups (the ability successfully interact with others, cooperate; resolve conflicts).

It is important to point out those competencies that by decision of the Council of Europe must be formed among young Europeans, in particular:

- 1) political and social competence – the ability to take responsibility, participate in group discussions, to resolve conflicts peacefully, to participate in building a democratic society;
- 2) competence, associated with life in a multicultural society – based on tolerance education should cultivate in young people the ability to recognize and accept differences, respecting others, learning to live with people of other cultures, languages and religions;
- 3) competences regarding possession of spoken and written communication, including knowledge of more than one language;
- 4) competences associated with the development of information society – possession newest information technologies, understanding of the opportunities and ways to use, strengths and weaknesses, the ability to critically perceive information broadcast by the media;
- 5) the ability to learn is the basis for lifelong learning in professional and social contexts.

Thus, using the competency methodology to physical education of students of special medical groups with different levels of physiological capacity of the organism have to use the following educational technology (in this case health saving technologies. – S.P.), that will improve, enhance and perfect health of future professionals, to form the ability of practical solutions of life problems and bring everyone to the level of physical preparation in accordance with the requirements of educational qualification characteristics.

*Activity approach* to physical education of students of special medical training department allows solving a large amount of educational, recreational and educational objectives. The main conceptual thesis of activity approach to development of personality of the student is that the individual discovers the properties and relations of elements of the real world only during activity – mental or physical, individual or collective, etc. It is generally accepted that activity – is a way of being human, it is his behavior to meet a variety of needs, motives and goals. Focusing on the provision of activity-methodological approach can be argued that physical education is effective only when the student (apprentice) included in the various activities and possession of physical education, knowledge, skills, develops the need to exercise, motivation of active way of life. The above implies for the solution of improving training and professionally-applied training a combination of theoretical, methodological and practical component in the implementation of components of health saving technologies for this category of students. In addition, we anticipate attracting students of special medical groups to various forms of physical improvement process – mandatory training, electives, independent exercises, small forms of active recreation during the course of theoretical studies (micro pauses, P.E. minutes and P.E. pauses), participation in various sports and sporting events, a variety of games, etc.

The essence of *person-oriented approach* [6] is to overcome the contradiction between collective education (for all) and education “for everyone” based on an appeal to the personality of the individual consciousness, life experience, their own creative potential. Features of mentioned methodology is that it seems to be accumulating several approaches: is a man-center, directs on a human as the goal of education (axiological approach); supports and develops the subjective quality and individual characteristics of the student (individual approach); introduces students to the world of cultural heritage of mankind (cultural approach); stimulates the student to self-solve their life problems in unstable social conditions of life (synergistic approach).

It is important that the provisions of person-oriented approach should encourage the person to self-knowledge, self-activity so that every student could become a creator of his own spiritual life (including health). Thus on the front fore educational situation of creative cooperation, aimed at maximum involvement of all components of the structure of personality (mind, will and emotions) to implement independent search and constructive ways of social behavior.

The unity of all these methodological approaches provides adequate problem solving of improvement, preservation, enhancement and improvement of the health of students of special medical groups during the study period and in later life by means of health saving technologies with a set of *principles*. The above set of norms, basic rules of realization of physical education of students of special medical groups in the study was seen as a construct “pyramid” type: the basic principles of national education of students; further general-methodological principles; then the principles of physical education of students; on top of the pyramid – the specific principles of physical education of students of special medical groups.

In physical education of students important role takes the formation of knowledge systems of physical culture and healthy lifestyles. The effectiveness of this process is achieved while respecting the general methodological principles – highlight that define the content, organizational forms and methods of implementation of health saving technologies, including:

- *the principle of consciousness and activity* (adjusts to the formation of students' strong interest in exercise and sports; awareness by students healthy influences on organism of active physical activity contribute ground learning of physical education, accelerate the process of physical perfection);
- *the principle of visibility* – requires build educational process involving a variety of feelings to the process of analysis and perception of educational information;
- *the principle of systematicity and consistency* – the regularity, consistency, continuity of systematic nurturing of ensures the efficiency of formation of physical education students;
- *the principle of repetition*: as a result of multiple repetitions produced dynamic patterns, the nature of the elements can show a change in exercise or conditions of their implementation in a variety of methods and forms;

- *the principle of accessibility and personalization*: using nature's date of student, teacher guides the direction of physical development. This excludes the negative and harmful consequences for the student body as a result of excessive demands and tasks;

- *the principle of cycling*: contains that class of cyclically repeated that promotes better preparing of students for the next stage of each study;

- *the principle of communication of theory with practice* at the level of physical education invoke to teach students formation, maintenance and promotion of health in practice, use knowledge in daily activities of a healthy lifestyle.

Specific principles that ensure implementation of health saving technologies in physical education of students of special medical groups in the study justified (Section 2.2, p. 98-101) the following basic requirements:

- recreational, therapeutic and prophylactic use of orientation of physical education;
- differential approach to use physical culture, depending on the nature and consequences of structural and functional abnormalities in the body caused by the pathological process;
- vocational and applied orientation classes in physical education;
- education of motivation of students to use exercise to enhance physical and mental health and improve physical fitness by means of physical culture and natural factors.

The study identified and justified such *pedagogical conditions* of physical education of students of special medical groups:

- consistent of teachers of physical education position, health care workers and administration faculties (deans, their deputies, chief academic part of educational work, etc.) for planning sessions with students of special medical groups, the definition of control health and level of physical fitness;

- optimization of forms of physical training in which basic forms (classes in physical education, independent physical exercise, etc.) naturally combined with variation forms (hiking weekend, small forms of recreation, etc.) and independent theoretical work (papers) whose content is to be used to develop individual health and training programs based on nosology disease of author;

- consideration of health, disease nosology of students of special medical groups in choosing forms, methods and means of health saving technologies for their physical education;

- deliberate use of health saving technologies while teaching in all cycles of future professionals in higher education;

- close cooperation of teachers and health workers on rational use of physical culture and sports, effective drug control in conjunction with educational assessment of processes of improvement, preservation, enhancement and improvement of health of students of special medical groups (regular medical examination, medical and teacher observation of classes, sports and recreational activities, competitions, the hygienic control; medical health of health and sports camps, sports and health and sports events, competitions; health and educational work and health promotion, prevention of illness, injury, etc.);

- providing emotional appeal to lessons on physical training through the use of folk games, expanding arsenal of exercise, messengers for playing at home;

- targeted attraction of students of special medical groups to recreational sports and sports weekly activities (morning gymnastics, walking distance to the university, teaching classes in physical education, recreation during the school day; activities during homework; independent health and fitness classes; participation in sports and sporting events, etc.) with the prospect of a weekly motor mode from 17 to 20 hours;

- combination of formal (specially organized) physical education with self-education, in which physical self-improvement of students of special medical groups based on the use of methods of self-influence (self-organization, self-reassurance, self-command, self-hypnosis, self-programming, self-inspection, self-correction, autogenic training, self-quieting, self-praising, self-oblige).

In structural-functional model of process of students' physical education of special medical groups health saving technologies implemented through the following *forms*: training sessions in physical education, independent physical education study, sports and tourism, and sports activities, exercise in the daily routine, homework in physical training, etc. In turn, training sessions are held in usual (reproductive and productive) ways of training, the main ones are: narrative, explanation, discussion, debate, problem methods (statement of the problem, partially-search, research), simulation, design, practical, video-method, work with educational and scientific literature, etc. In addition, specific of health saving technologies of physical education with students of pointed category reflect the following methods: standard-repeated exercise; variable exercise; gaming method.

The basis of *content* of physical education of students of special medical groups is a system of knowledge and skills of theoretical, methodological and practical training, optimized for the complexity of the disease of student in terms of his health and so on.

Diagnosis-resulting block of model provides assessment, analysis and correction of results of physical education of students of special medical groups and involves complex medical and biological indicators of physical development of the individual, morphological and functional properties of the organism (mass growing index (Kettle); power of hand (dynamometry); attempt to hold breath – test Shtange, sample Ghenci, vital capacity of lungs; heart rate (HR); blood pressure, etc. In order to determine the level of physical and functional preparedness of students of studied groups it is conducted the survey respondents, testing their physical skills (running, jumping, pulling, etc.).

Comprehensive indicator of the level of health, physical preparation was chosen index, which characterizes the relationship of biological age to calendar age of the student. These indicators characterize five levels of health and physical preparation of students as a result of the proposed health saving technologies in educational process of higher education. The predicted *result* of realization of model elements is shift in the levels of care (reduction of biological age) of students in this category, advanced level of theoretical, practical and methodological types of physical fitness.

Thus, the proposed structural-functional model (Figure 4.18) of a process of physical education of students of special medical groups, in our opinion, can be used for in-depth fundamental research challenges of training and education of students. Moreover, as shown by the results of experimental work, designed construct of process of physical education of students of special medical department in its implementation in practice helps to reduce biological age, to improve health of students, change in the levels of care (reduction of biological age) of students category, advanced level of theoretical, practical and methodological types of physical fitness.

So, to solve the problem to improve the physical health of students for special medical educational department purely medication it is impossible – it is needed pedagogical tools and teaching methods. Therefore, the main burden of its solution relies on the department of physical education and scientific and educational workers, who work with them, because they engaged in shaping the worldview of the student and motivation to enhance their health by means of physical education.

Analysis of scientific literature gives reason to say that physical education, recreation and sports educational technology as a part of the public education system, should lay the foundation and development of physical and mental health, a comprehensive approach to the formation of students of special medical training department healthy lifestyle.

### **Conclusion.**

1. Analysis of the interactions of components of physical development and physical fitness of students of special medical groups showed that morphometric parameters are most closely interrelated. Relationships of indicators characterizing the level of development of physical qualities reflect as two-way influence as lack of differentiation in the mechanisms that determine the structure of physical fitness of students with impaired health.

2. Recommended models of physical capabilities of students of special medical departments help professionals to assess individual potential of the body in the field of physical education, using available information during planning and improving the educational process in physical education, determination of physical activity according to sex, nosology of diseases and condition of physical preparedness. Keeping a diary of physical self-affects influence on education of their motivation for regular exercise, which in turn helps to ensure a normal life, success in learning and mastering the skills of future profession.

3. Further research of reserve capacity of the motor activity of students with disabilities in health, we see the following:

a) finding a new ways to improve the structure of physical fitness – relationships and interactions of physical abilities, motor skills and physical development indicators;

b) search for new, most effective ways to improve mechanisms of management motor activity of students;

c) clarify and improve of relevant predictive mathematical models, normative assessment scales of transferable skills of students of special medical department;

d) development of specific, differentiated according to nosology programs in physical education and content modules designed to enhance motor skills and backup capabilities taking into account specific of a particular disease and individual level of physical fitness.

4. The content model using of health saving technologies during educational process of students for special medical training department by means of physical education.

### **References:**

- 1 Blavt O.Z. *Pedagogika, psihologia ta mediko-biologicni problemi fizicnogo vihovanna i sportu* [Pedagogics, psychology, medical-biological problems of physical training and sports], 2012, vol.11, pp. 14–18.
- 2 Vardanian M.R. *Imidzh pedagoga kak faktor zdorov'iasberezeniia sub"ektiv obrazovatel'nogo processa v osnovnoj shkole* [Image of teacher as a factor of health of saving subjects of educational process at basic school], Cand. Diss., Омск, 2007, 23 p.
- 3 Voronin D.Ie. *Formuvannia zdorov'iazberigaiuchoyi kompetentnosti studentiv vishchikh navchal'nikh zakladiv zasobami fizicnogo vikhovannia* [Forming of healthsaying competence of students of higher educational establishments by facilities of physical education], Cand. Diss., Kherson, 2006, 20 p.
- 4 Griban G.P. *Pedagogika, psihologia ta mediko-biologicni problemi fizicnogo vihovanna i sportu* [Pedagogics, psychology, medical-biological problems of physical training and sports], 2012, vol.11, pp. 27–30.
- 5 Grigor'ev V.I. *Teoriia i praktika fizicheskoi kul'tury* [Theory and practice of physical culture], 2004, vol.2, pp. 54–61.
- 6 Davydova L.J. *Molod' v umovakh novoyi social'noyi perspektivi* [Young people in the conditions of new social prospect], Zhitomir, 2007, vol.1, pp. 200–202.
- 7 Dolzhenko L. *Moloda sportivna nauka Ukraini* [Young sport science of Ukraine], 2006, T.1, vol.10, pp. 218–223.
- 8 Dubogaj O.D., Dzhurins'kij P. B. *Naukovo-pedagogichni problemi fizichnoyi kul'turi* [Scientifically pedagogical problems of physical culture], Kiev, NPU, 2010, vol.10, pp. 275–278.

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- 9 Prisiazhniuk S.I. *Fizichne vikhovannia* [Physical education], Kiev, Center of educational literature, 2008, 504 p.
  - 10 Battistich V., Hom A. The relationship between students' sense of their school as a community and their involvement in problem behaviors. *American Journal of Public Health*. 1997, vol.87(12), pp. 1997-2001.
  - 11 Ted Brown, Maryam Zoghi, Brett Williams, Shapour Jaberzadeh, Louis Roller, Claire Palermo, Lisa McKenna, Caroline Wright, Marilyn Baird, Michal Schneider-Kolsky, Lesley Hewitt, Jenny Sim, Tangerine-Ann Holt. Are learning style preferences of health science students predictive of their attitudes towards e-learning? *Australasian Journal of Educational Technology*. 2009, vol.25(4), pp. 524-543.

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**Cite this article as:** Prysjazhnik S.I. Ground of maintenance of model of health of saving technologies of students of the special medical educational separation of physical education facilities. *Pedagogics, psychology, medical-biological problems of physical training and sports*, 2013, vol.1, pp. 68-73. doi:10.6084/m9.figshare.106942

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Received: 17.12.2012

Published: 31.01.2013