Health Protection Features of Student youth in Research University

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ABSTRACT

The relevance of the study is conditioned by the adverse dynamics of students’ physical and mental health, which creates objective obstacles to the development of research universities. The article aims to find out particular health protection features of student youth in research universities. The leading approach of the study is the systematic approach that considers health as holistic, multidimensional dynamic state, evolving in the process of realization of genetic potential in terms of the specific social and ecological environment, and which leads to the implementation of human biological and social functions. The study involves 750 teachers, 2500 students who participated in the development and implementation of the project “University of health”, with the aim to develop motivation to acquire knowledge, abilities and skills needed to understand the value of health’s preserving and strengthening. Main results of the research consist in the characterization of health-forming education as a pedagogical process aimed at the formation of the ability for positive self-development in different life circumstances, stable orientation to a healthy lifestyle; development of mechanisms of health-forming education, including the creation of interagency of medical-psychological-pedagogical program, the formation of students’ health culture, organization of medical-psychological-pedagogical monitoring of students’ health. The significance of the results obtained lies in the fact that the organization of health-forming education provides for the development of needs in health as a condition for the successful social activity and a full professional activity; the implementation of mechanisms of health-forming education determines the education of the ability to organize life activity on the basis of a healthy lifestyle; mastery of the abilities and skills for enhancing of the adaptive reserves of the organism and strengthening of health; creating of psychological stability in difficult and extreme conditions.

KEYWORDS

The health protection of student youth, health-forming education, culture of health

ARTICLE HISTORY

Received 16 January 2016
Revised 20 March 2016
Accepted 7 June 2016

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Introduction

The relevance of the study is conditioned by adverse dynamics of physical and mental health of students, which creates objective obstacles to the development of research universities. Today there are the following problems of young people's health: early pregnancy and childbearing, HIV, suicide, infections of the lower respiratory tract and meningitis, interpersonal violence, depression, alcoholism, drugs, inactive way of life, unintentional injuries, malnutrition and obesity (World Health Organization, 2016). Health is a resource, social capital, essential for human adaptation in modern socio-economic conditions (Petrova et al., 2016). The issues of health's preserving and promoting are an integral part of the content of state regulation in development of services' sphere (Ivanov et al., 2016). The theme of students' health protection is more than one year discussed by doctors, teachers, psychologists, sociologists (Kalju, 1988; Shchedrina, 1989; Guvakov, 1991; Lisitsyn, 1992).

In modern conditions the development of research universities is accompanied by the influence of the whole complex of environmental factors, adversely affecting the physical, reproductive and mental health of students. Such factors include the increase in the intensity of information flow, wide introduction of technical means and computer technologies in the educational process. The learning process requires students’ great mental, emotional and physical costs (Bulich & Muravov, 2003). It has become evident that the objects of development of the individual trainees are integral features: not only knowledge and skills but also psychic-physiological properties. The resolution of urgent socio-economic problems, achievement of advanced development of research universities is possible only under condition of preservation and strengthening of health of young people. Deteriorating health of the younger generation reduces the resources, educational opportunities research universities (Lunev, Pugacheva & Stukolova, 2014). In such a situation, new mechanisms are needed to promote healthy lifestyles, enhance self-preservation behavior among student youth. However, the content of activities of research universities for the preservation of trainees’ health is often medically - preventive and informational-educational activities, which do not give the desired result. Modern research universities need a health-forming concept of education, in which the process of formation of health should be considered first, in terms of implementation of the external socio-cultural conditions of human life activity and health needs as the condition of well-being; secondly, in terms of implementation of internal conditions: needs, motives, competencies. All the above leads to the purpose of the paper - find out the peculiarities of students’ health protection in research universities.

Methodological Framework

A leading approach to the study is the systematic approach that considers health as holistic, multidimensional dynamic state (including the positive and negative side), developing in the process of realization of genetic potential in terms of the specific social and ecological environment, and leading to the implementation of human biological and social functions. The health is influenced by biological, psychological, and social factors. Health cannot be characterized by any single symptom or their combination. A systematic approach allows to select several parameters, most closely associated with the
health structure, which is based on the stability of homeostasis, supported through adaptability and self-regulation: the level and harmony of physical development, reserve capacity of the major physiological systems of the organism, the level of immune defense, absence of defects of development, the level of ethical-volitional and value-motivational attitudes, the ability to get rid of metabolites. Based on the systematic approach, the following characteristic features of the modern understanding of problems of students' health protection are identified: 1) the interdisciplinary status of the problem, which manifests itself in the attempts of various researchers to consider health as a complex multidimensional phenomenon, which has a heterogeneous structure combining efficiently various components and reflecting fundamental aspects of human existence; 2) the need for a systematic approach to the consideration of the phenomenon of "health" because it cannot be reduced to a simple sum of standard indicators, as it is a quality that characterizes the human being in its integrity; 3) recognition of socio-cultural origin of the notion "health" in which it is increasingly regarded not as "natural" phenomenon (a condition of the body and the mind), but as a quite complicated artifact, caused as by contemporary cultural discourses (concepts, pictures of the world, knowledge) and so by social institutions. Thus, a systematic approach, firstly, leads to the formation of concepts of students’ health protection on the basis of a combination of interrelated biological, social, mental well-being of students and focus on them as entities of activity. Second, the system approach allows considering of the concept of students’ health protection as a component to control vocational education in the region (Kamasheva et al., 2016). During research the following methods are used: theoretical (analysis, synthesis, generalization, systematization); sociological (observation, interviews, questionnaires, expert evaluation).

Results

The main results of this study are: 1) characteristic of health-forming education; 2) mechanisms of health-forming education; 3) experimental verification of the effectiveness of the mechanisms of health-forming education.

Characteristic of health-forming education

The process of forming health can be considered, first, in terms of implementation of the external socio-cultural conditions of human life activity and health needs as a condition of well-being (physical, mental and social); secondly, in terms of implementation of internal conditions associated with the man's responsibility for the existence of the integrity of his existence (self-existence-health). Health-forming activity is fundamentally different from health care activities considering health as a biologically innate human feature. The challenges facing the health care activities are actions that protects a man from the growing disease problems (biological, chemical, mental, physical in its origin), and associated with prevention. In the process of health care activity there is a global inversion of socio-cultural symbol of health in a fundamentally different character, the disease as being. Guided by the ideas of health care activity, educational environment adapts to the individual psychic-physiological characteristics of the student, but attempts to "subordinate" the educational priorities to medical ones, through a simple reduction of educational load will inevitably lead to the inadequacy of the pedagogical results. In particular, the
student, who preserves his physical health due to the "gentle" training load, can be unclaimed in life. Thus, the graduate can be overtaken by serious deviations in a state of physical health after graduation of the university (Pugacheva et al., 2016). The main drawback of the existing projects of health protection in the process of educational activity is that the comfort degree of person's physical condition is not possible for mechanical extrapolation of this state in time and space. This is because it is impossible to take into account the development of the social environment existing independently of this person. Therefore, the health-forming in the educational process should not be limited to ideas about strengthening of only somatic (physical) health of students. The importance of maintaining and strengthening of the social-psychological health is significant, pathology of which leads to changes in the psyche of the student in the form of various neurotic disorders. The essence of health-forming education is that it is a pedagogical process aimed at the formation and development of students' positive, sustainable orientation for the preservation of health, as a necessary condition of vitality. In practice, this can manifest itself in the formation of students': 1) ability for positive self-development in different life circumstances, to self-confidence, to the development of competences and self-worth; 2) motivation for health promotion, by setting of the attitude to the value of their own health, acquiring knowledge about health, mastering the skills keeping and multiplying health; 3) a culture of health, aimed at responsible attitude to their own and the health of others, the desire to preserve and enhance their natural potential, at harmonization of the personality, a willingness to maintain their own emotional balance and others, the ability to perceive and create beauty.

**Mechanisms of health-forming education**

First, it is the development and implementation of inter-sector, holistic medical-psychological-pedagogical program to develop health of student youth at the regional, municipal level and the University level. The main directions of this program: 1) a system how to form responsible positive attitude to their own health and commitment to a healthy lifestyle; 2) the system of formation of positive psychological and social health; 3) system of possible correction and making sustainable health as a holistic integrative indicator of personal development. Implementation of an integrated program must begin with a concretization of the concept "health" as a value of the educational process taking into account the specifics of the region, municipalities, specific university. Development and implementation of inter-sector medical-psychological-pedagogical programs for the development of population’s health is one of the components of the strategy in the sphere of services' development (Terentyeva et al., 2016). The ideal of modern University education should be the education of harmoniously developed mature personality. Maturity of personality is manifested in the purposeful pursuit to physical, mental and social well-being. In the process of human development structure of his personality undergoes various changes, retaining its quality new state. These changes can lead to temporary manifestations of unhealthy condition as the challenges of personal growth. And illness as an established form of human life is the result of his inability to positive self-development in specific circumstances. Consequently, the contents of health-forming education should be directed on formation of students’ constructive abilities and skills of coping with difficult life situations as a necessary condition of preservation and strengthening of mental and social
health. Health-formation is a gradual process of assigning of healthy lifestyle samples.

The second mechanism is the formation of students' culture of health, including the need for healthy lifestyle, knowledge, abilities, skills, necessary for understanding the value of health and the assessment of their own health, the relationship between it and a healthy lifestyle. (Akhmetov et al., 2016). The implementation of this mechanism involves the development of special educational curricula and selective support for their implementation (Akhmetov et al., 2016).

The third mechanism is the organization of medical-psychological-pedagogical monitoring of students' health and the creation on its basis of the computer database. This monitoring should be focused not only on the assessment of subjective and objective factors of formation of health and healthy lifestyles, but also on the effectiveness of the structures of health-forming education available at the University. Based on the results of monitoring goals and objectives of construction of health-forming education can be divided into strategic and private ones.

**Effectiveness’s experimental verification of the mechanisms for health-forming education**

Experimental verification was conducted from 2010 till 2016. Experimental testing involved 750 teachers, 2500 students of Kazan national research technical University named after A. N. Tupolev. Experimental testing took place in three stages: ascertaining, forming, and control.

On ascertaining stage students' survey was conducted in order to identify attraction to the abuse of psychoactive substances (tobacco, alcohol, drugs). This study showed that the number of students condemning the addiction is 90% of all respondents. However, 1% "admits" (not exclude!) for personal use of drugs. 9 % takes a neutral position on this issue. As reasons for drug use, students noted the curiosity, the desire to relieve stress, fatigue, distractions from the turmoil and upheaval in their personal and family life. 81 % of students chose medical care as a measure to save people from drug addiction. A study was conducted on depression among students. 44% had the disorder of the depressive spectrum, including the depression and a wide range of hysteria-depressive, anxious-depressive, anxious-hypochondriacally and other state. 12% showed pronounced depression.

On the forming stage the mechanisms of health-forming education were tested. A special project was developed and implemented for it - "University of health". The aim of the project is the creation and implementation of multi-level system of diagnostics, prevention of diseases and restoration of students' health with the use of modern medical, informational and educational mechanisms. To implement this objective a number of problems was identified: 1) the establishment of a monitoring and evaluation system of students' physical, mental and social health according to individual "passport health", which includes a constantly updated database with the possibility to analyze and forecast indicators of individual and population health with access to prevention and correction; 2) implementation of training curriculum "Basics of medical knowledge" aimed at the formation of value orientation on health, changing of behavioral risk factors and training of students modern methods of assessing,
maintaining, strengthening and restoring of health; 3) development of diagnostics of pathological attraction to psychoactive substances and deviant behaviors of students; 4) development and implementing of integrated curricula of healthy lifestyle formation and prevention of socially significant diseases (alcoholism, drug abuse, HIV, Smoking). The achievement of the goals and objectives consisted of four stages.

At the first screening stage filling of individual “passports of health” was carried out by the students. When filling out the “health passport” the students not only answer the questions in the questionnaire about the presence of symptoms, but also precise medical history, identify genetic predisposition to diseases, evaluate physical development, learn to evaluate the results of various functional tests, calculate the index of functional changes and determine their level of adaptation. The “health passport” also includes tests to assess stress level and stress resistance, as well as questions to assess the level of social adaptation. Filling out of the "health passport" allows teaching the students methods of evaluation of health qualitative and quantitative indicators and raise the level of medical knowledge and form a sense of responsibility for their own health. At this stage, a computer database was created of a University curriculum "Monitoring of students' health", the analysis and forecast of indicators of students' health were carried out, the necessary educational and health activities were developed. The monitoring provides dynamic monitoring of parameters such as the condition of individual health of students, the prevalence of behavioral risk factors (Smoking, alcohol consumption, malnutrition, overweight and low physical activity), assessment of the acquired knowledge, abilities and skills in health maintenance, and change of value orientations of students in relation to their health.

The second - analytical stage - a Center of health-formation was created to maintain the mental health of students, prevention of stress conditions, inadaptability and addiction; conducting of psycho-physiological testing and monitoring of the students' health, including a continually updated database with ability to analyze and forecast indicators of individual and population health; diagnostics of the level of mental health, cognitive abilities, ability to mental work; psychological support to students.

The third - organizational-preventive stage included the formation of three groups of students (1 - healthy, 2 - risk group, the 3 – with chronic non-communicable diseases) with the development of individual health programs; students' medical examinations was conducted on the basis of student clinic and their improvement in student sanatorium was carried out; a set of measures was organized for the protection of eyesight, optimization of nutrition, prevention of inadaptability, changing of conditions of education and health services. A multi-level system for prevention of non-communicable diseases and restoring of students' health was developed and implemented, which allows to form a valuable orientation of students to health, to mitigate the negative behavioral risk factors in student population and to improve health, creative activity and to form future specialists possessing methods of self-evaluation and self-correction of deviations in their health status. The program "Healthy eating" is developed and implemented, including measures on nutrition optimization in the University (technology of making bread with the addition of iodine, a mineral water, "University", enriched with zinc and calcium, the inclusion in the menu of
the dining room and buffets of salads with fresh vegetables, seaweed, natural juices, system of epidemiological monitoring of the food service of the University).

At the fourth – educational stage – activities were carried out aimed at teaching students the basics of healthy lifestyle and prevention of diseases, the study of the discipline "Basics of medical knowledge" was organized with the assessment of acquired knowledge and skills. Academic discipline "Basics of medical knowledge" consists of 16 lectures and 16 practical classes. Lectures discuss the following topics: "Health and its determinant factors", "Healthy nutrition", "Health of the digestive system", "bases of the health of the circulatory system, risk factors and their prevention", "Health of the senses", "the Basics of the endocrine system", "bases of the health of the urinary apparatus", "Basics of immune health", "Basics health of the blood system", "the basics of health, musculoskeletal system, prevention of flatfoot and posture disorders", "Fundamentals of raising a healthy child", "HIV infection and its prevention", "Prevention of infectious diseases", "Hardening", "Motor activity", "Mental health and the prevention of stress", "Impact of environmental factors on health. Practical lessons include the topics: "health Passport of a student"; "Assessment of the daily diet"; "assessment of the health of the respiratory system"; "assessment of the health of the circulatory system"; "assessment of the health of the senses"; "Reproductive health and prevention of sexually transmitted diseases"; "First aid for injuries and accidents". The working curriculum of the disciplines is provided with training-methodical manuals, test programs. Each of the students during the semester with the help of a teacher learns to evaluate quantitative and qualitative health indicators and to compile the program for their own recovery.

The control phase revealed the effectiveness of the project "University for health". There was a students' survey which found that 94% formed value orientation on health, 64% became more careful about their health and the health of their relatives, 10% gave up smoking, 30% increased their physical activity, 21% learnt how to cope with stress, 73% learnt to provide first aid for injuries and accidents, 9% reduced consumption of alcohol (including beer).

Discussion

A number of studies are dedicated to the problem of students' health protection. Health as a holistic state of a person is not only a collection of individual physical and mental characteristics, but also integration of socio-economic conditions. Only a medicine theory has about 80 definitions of human health, formulated by representatives of different scientific schools (Kalju, 1988). This list is far from to be completed, but even as it amazes with the diversity of interpretations and a diversity of features used in the definition of this concept. Through analysis of the essential features of health allocated by different authors, four models of health were identified by the authors of this paper: 1) medical model of health, which contains purely medical features and characteristics, and health is seen as the absence of diseases and their symptoms (Kalju, 1988); 2) biomedical model in which health is understood as a lack of human organic disturbances and subjective sensations of ill-health (Shchedrina, 1989; Bulich & Muravov, 2003); 3) a bio-social model including both biological and social feature of health in their unity and interdependence, with the priority value of the biological features (Guvakov, 1991); 4) value-social
model, which considers health as one of the main valuable bases of life activity, the necessary prerequisite for a fulfilling life of people, satisfying their material and spiritual needs, participation in various activities (Lisitsyn, 1992; Korotkova & Pugacheva, 2011). According to this model, health is referred to physical, psychological and social well-being and not merely the absence of disease and defects. In the opinion of the authors of the paper, the human body is a multicomponent complex-organized dynamic system. Therefore, health cannot be characterized by only one single symptom or combination, and is a multidimensional concept. This leads to a systematic approach to the solution of problems of students’ health protection.

In the Constitution of the world health organization (1948) health is considered as a state of complete physical, mental and social well-being. Under bodily or physical health the condition is understood which observes the perfection of self-regulation of bodily functions, harmony of physiological processes and maximal adaptation to different environmental factors. Physical health is measured by the degree of physical preparedness, physical development, physical fitness form, being trained physically and physical activity. Important components of physical health are vegetative and immune status of the organism and sensory health. Emotional or mental health is a person’s ability to respond adequately to external and internal stimuli, the ability to balance oneself with the environment. A reflection of mental health is adequate perception of social reality, a curiosity about the world, adaptation to the physical and social environment, the focus on socially useful work, the development of culture of material goods’ consumption, altruism, empathy, responsibility to others, selflessness, democracy in behavior. Social health is the ability to adapt to the social environment, complete performing of social functions (Constitution of the world health organization, 2016). Criteria of socio-psychological human health is the identification of one’s physical and mental I; positive criticality to itself and its own activities and its results; the compliance of mental reactions with the power and frequency of the environmental impacts, social circumstances and situations; the ability to control one’s behavior in accordance with social norms, rules and laws; the ability of positive planning of own life activity and the realization of this plan, changing the method of behavior depending on changing of life circumstances and situations. The important component of social health in student age which is related to the adequate perception of social reality and adaptation to the social environment is a professional self-determination.

Thus, health is not only absence of disease but the totality of physical, mental, social well-being. Health can be defined as a socio-cultural symbol that sets the image of a man (ideal), who is able not only to exist within a certain culture, but also to maintain it with his own immediate life activity and achieving of prosperity. "Illness" is the image of a man who, consciously or unconsciously, does not accept the system of values (fully or partially) of a specific cultural-historical community, and as a result, is not able to be prosperous. This interpretation of the health transforms the problem of preservation and strengthening from the informational - preventive approach in the organization of health-forming education taking into account medical psychological and socio-cultural factors.

**Conclusion and recommendations**
It is found that features of the protection of students' health in research universities include, first, the creation and implementation of the concept of health-forming education, and secondly, the development and implementation of mechanisms of health-forming education. The concept of health-forming education includes: 1) recognition by all entities of educational process of health as values, understanding of the necessity of personal effort for its preservation, formation and improvement; 2) the development of motivation of a healthy lifestyle as a condition for the successful social activity and a full professional activity, improvement of the level of self-preservation behavior among the student youth; 3) the creation and implementation of multi-level systems of diagnostics, prevention of diseases and restoration of students' health using modern medical, informational and educational mechanisms.

Mechanisms of health-forming education include the creation of inter-sector medical-psychological-pedagogical program, the formation of students' culture of health, organization of medical-psychological-pedagogical monitoring of students' health. It is established that the creation of inter-sector medical-psychological-pedagogical program helps to develop ability to organize life on the basis of a healthy lifestyle; to form psychological stability in difficult and extreme conditions. It is found that the formation of the students' culture of health ensures the successful mastery of the skills to enhance the adaptive reserves of the body and health promotion; to create regulatory system in the form of new ideals and the "fashion" for healthy way of life. It is revealed that the organization of medical-psychological-pedagogical monitoring of students' health leads to the development of responsibility for the preservation of health as a holistic integrative indicator of the personality development; development of motivation in improving of a healthy lifestyle.

The results of the study allow us to outline the prospects for further research of this problem that are associated with the development of special programs for the protection of the students’ health and the formation of health culture, formation of readiness for a healthy lifestyle. The paper can be useful for managers and high school teachers; staff of the centers for advanced training and retraining of personnel in the selection and structuring of contents for qualification improving of the teaching staff of universities.

Disclosure statement
No potential conflict of interest was reported by the authors.

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References


