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COMPREHENSIVE ASSESSMENT OF HEALTH STATUS OF THE HUMAN BODY

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Abstract. *The problem of health is complex and is studied by many different sciences, but in modern conditions, a healthy lifestyle is a determining factor in maintaining and promoting health in working-age young people. In order to influence the behavior of young people, the great efforts of the individual, family and society are needed. The only radical way of solving the problem is a radical restructuring of our views on the causes and consequences of our condition, and formation of the foundations of a healthy lifestyle will help to achieve the necessary results by restructuring the system of education and upbringing in youth of self-responsibility and a sense of self-preservation, which will help in the development of harmonious, responsible, purposeful and happy person.*

Keywords: *quality of health, quantity of health, methods of health level assessment, factors affecting health status.*

The study of health problems in our time is of particular relevance [1]. The definition of a term of health is that, first of all, it is the efficiency of adaptation of the organism to the conditions of existence in the environment, which involves the process of interaction of the person with the environment, ie the state of health is formed as a result of the interaction of external (environment, social development, etc.) and internal (heredity, gender, age, etc.) factors.

Undoubtedly, at the beginning of the XXI century every field of human activity is connected with a healthy lifestyle, since it is an individual system of human behavior, which evokes positive emotions and contributes to the prevention of diseases and accidents that is, aimed at achieving full physical, mental and social well-being. Recently, scientists have increasingly resorted to a healthy lifestyle as an independent social phenomenon, characterizing it as a special state of personality. However, the phenomenon of healthy lifestyle of the individual has not been fully studied, although the problems of culture of mind and body were raised in the era of ancient civilizations [1, 2].

In the psychological and pedagogical direction, a healthy lifestyle is considered in terms of consciousness, human psychology, and motivation. There are other points of view (for example, biomedical), but there is no significant line between them, because they are all aimed at solving one problem which is promotion the individual health [3, 4, 5]. Today, the health is considered as the absence of disease prevails. The experience of health is not given to us first, but second. It is mediated by the primary experience of malaise, pain, illness, weakness, and health itself is perceived as a salvation from these negative feelings. Dissatisfaction with this understanding of health is often sought to circumvent through the use of the concept of "practically healthy" in relation to humans. It allows you to not pay attention to health-related disadvantages, correlate health with age, take into account the occupation, etc. [6, 7].

The success of a person's healing depends to a large extent on understanding the nature of health, the factors and processes that shape this condition. Specifying the essence of individual health will solve the question of ways and possibilities of human health. There is a wide range of interpretations in scientific circulation. Today, there are more than three hundred definitions of health, the authors use a variety of criteria, which, in their opinion, characterize the essence of health. This diversity of definitions indicates that there is no single approach to this problem. The unsuccessful attempt to reach an agreement is

explained by the fact that human health is a complex conceptual construct, so it is difficult to summarize its multifaceted aspects in a concise manner. Health has been, and continues to be, a phenomenon that is viewed by contemporary researchers from different perspectives [8, 9, 10].

Health is a prerequisite for productive, active, creative human activity. Significant violations in this area of a person can lead to changes in professional, interpersonal life, affect his way and even threaten the integrity of the individual.

An analysis of the existing literature has shown that today there are a number of approaches to the health problem, the main of which are:

1. Normocentric approach that understands health as a set of average norms of perception, emotional response and behavior in combination with normal indicators of a person's physical state.

2. A phenomenological approach that explains the problems of health and illness as fundamental aspects of individual being.

3. A holistic approach that indicates that health is the integrity that a person acquires in the process of becoming one.

4. A cultural approach that indicates that the healing process is a sociocultural variable and that its characteristics are relative and conditioned by specific social conditions, particularities of the national mentality.

5. A discursive approach that, according to supporters, emphasizes that health should be explored as a product of a particular discourse that has its own internal logic of construction.

6. An integrative approach that demonstrates that any principles, models and conceptual schemas are adequate ways of exploring health at different levels of human existence.

7. A sociological approach that explains the concept of health through a disease state.

It should be noted that health is, first of all, not simply the absence of complaints, diseases and physical anomalies, but also an important factor in the workability and harmonious development of the organism, ie the state of physical, mental and social prosperity and full functioning [6]. First and foremost, human health depends on the lifestyle that is guided by the individual and, to a greater extent, is personalized and determined by historical and national traditions and personal inclinations. This should be understood as the typical forms and methods of daily human activity, which are able to strengthen and improve the reserve capacity of the organism, allow ensuring the fulfillment of social and professional functions at a high standard of living. And expresses the orientation of the activity of the individual in the direction of formation, preservation and strengthening of both individual and public health [6, 7].

Today it is customary to distinguish several basic components of health: physical, mental and moral health. Physical health refers to the state of the human body, which is caused by the normal functioning of all its organs and systems. When we talk about health disorders, we are referring to this aspect, because it is fundamental in the development of a healthy and physically active person [18]. By mental health, we mean the state of the mental sphere. Mental health depends on the state of the brain; it is characterized by the level and quality of the cognitive state, the degree of emotional stability, the development of volitional qualities [19]. As for moral health: it is, first of all, a complex of characteristics of the motivational and informative sphere of life activity. Moral health is determined by those moral principles that underlie human social life, that is, life in a complete human society [18, 19]. It should be noted that, along with physical and mental health, moral is not less important, and it is with the presence of all three of these components that one can form a healthy, holistic, harmonious personality.

Mental health and physical health in its development and quality of functioning are inextricably linked and interact within the system of motor activity. Movement, work, physical education, sports, dancing, swimming, etc. are provided by a single psychomotor system, the concept of which was developed by great scientists I.M. Sechenov and I.P. Pavlov. Motor ideomotor activity significantly affects the development of the brain, and the brain, in turn, the quality of motor activity. Therefore, physical health is an important component of quality of health in general. Sometimes physical health is interpreted more broadly and identified with somatic, which introduces an element of uncertainty in understanding the essence of physical health. Physical health and activity are determined by three main characteristics - speed, strength and endurance, and also depend on the quality of metabolism (proteins, etc.), energy and information [20, 21].

Human health is a complex multicomponent structure that is why a whole range of methods and tools aimed at improving the somatic, mental and social spheres of human life can provide the most effective health impact [7, 11]. According to WHO (2011), human health status is only 15% depends on genetic predisposition, as much on health organization, and 70% on lifestyle and nutrition [12]. Maintaining and promoting public health remains an important national security issue [13]. Negative shifts

in the state of health of the population were manifested in indicators: medical-demographic, morbidity, physical development. This problem also affects student youth as the future of the nation and needs to be addressed. The intensification of training at universities, increasing the requirements for the quality of training of young professionals, should be accompanied by health-saving activities aimed at maintaining high mental and physical performance [14]. Involving the young population in the problem of maintaining their health is first and foremost a process of socializing education. Effectiveness of education and training strongly depends on health. Knowledge about the laws of development of the organism, its interaction with social factors is necessary for formation of mental comfort.

Recently, the attention to a healthy lifestyle of students has intensified, which is associated with the concern of society about the health status of young professionals and subsequent decline in working capacity. Healthy lifestyles reflect the generalized typical structure of student daily lifestyle [2, 3]. In a healthy lifestyle, the responsibility for health is formed in the student as part of the cultural development, which manifests itself in the unity of stylistic features of behavior, the ability to build themselves as a person in accordance with their own ideas about the spiritual, moral and physical meaning of life. Healthy lifestyles largely depend on students' value orientations as personally significant, which does not always coincide with values produced by public consciousness [5, 7]. Healthy lifestyles largely depend on students' value orientations as personally meaningful, but do not always coincide with values produced by social consciousness. Thus, in the process of student's accumulation of social experience, the disharmony of following processes is possible: cognitive (scientific and life knowledge), psychological (formation of intellectual, emotional, volitional structures), socio-psychological (social orientations, value system), functional (skills, habits, norms of behavior, activities, and relationships) [2-5]. Such disharmony can cause the formation of asocial personality traits. Therefore, in universities it is necessary to ensure the conscious choice of the person of social values of a healthy lifestyle and to form on them a stable, individual system of value orientations, capable to provide self-regulation of the person, motivation of his behavior and activity [3, 7].

The development of society determines the value status of a healthy lifestyle, and treating it as a professional value contributes to success in any field of professional activity, especially in medicine. Good health is a prerequisite for high-performance work, creative activity, the most complete expression of personality. Therefore, a healthy lifestyle plays a key role in the professional development of a medical student, and the formation of a healthy lifestyle, as a professional value, is an essential component of students' professional learning [1]. Healthy lifestyles have a wide positive spectrum of influence on a person's personality, ability to make non-trivial decisions, openness in communication, etc. This is manifested in greater vitality, well-being, good communication skills; feelings of their physical and psycho-emotional attractiveness, optimistic mood, psychologically attractive and adequate relationships. Formulating this approach is very important for students, especially foreigners with English language education, who are in a different cultural environment [7]. Therefore, the main burden in addressing this issue is to bring to the professors those disciplines in which the problem of healthy lifestyles is given considerable attention (physiology, hygiene, valeology, philosophy, cultural studies, etc.).

Given the wide variety of health manifestations, a large number of mathematical models and methods, as well as techniques for assessing an individual's health, have been proposed today. The most famous researchers in this field of science have determined that the most important factor in physical health is the level of maximum oxygen consumption (MSC), ie aerobic capacity of the body, which depend on the vitality, morbidity, life expectancy of man and so on. This important indicator characterizes the state of the cardiovascular and respiratory systems, the functions of metabolism and the degree of vital activity of the whole body. During the last decades it has become almost universal due to its high correlation with the physical state of man [15, 16]. Other informative and acceptable, from the point of view of practical use, is the method of rapid assessment. It is a method that is based on determining the level of health by translating the quantitative indicators that characterize the functioning of the most important functional vital systems into points. The number of such indicators depends on the normal physiological state of the organism and can fluctuate in the range from 4 to 16, and even, if necessary, more, among which may be such indicators as: cholesterol in the blood, acidity of gastric juice and othres. It should be noted that the more human health indicators are taken into account, the more likely they are to duplicate each other. This is primarily due to the fact that all the above indicators of the status are largely interconnected, as, after all, everything in the living organism. For example, with an increase in the time of training in health running, swimming or other aerobic training, in addition to improving the results in endurance tests, there is a decrease in heart rate, an increase in vitality due to a decrease in body weight and an increase in the vital capacity of

pulmonary depression, normalization of pulmonary [17]. It should be noted that this method of determining the health status is sufficiently informative and can be used in health centers, polyclinics, gyms. But we should be aware that determining the level of health using the rapid assessment method is only a modest attempt to reflect such a complex phenomenon as human health. Mathematics, of course, is a universal language of any science, but it should be remembered that, due to the limitations of arithmetic actions, formulas and expressions, even the simplest phenomena of nature can be much more complex than mathematical models and functions, diagrams, graphs, and histograms. There is a significant risk of material misrepresentation of the overall picture of processes occurring in the biological object, if some of the information is viewed out of context [17].

The human body is a holistic, extremely complex and multifaceted bioenergy information system, in which a huge number of diverse, sometimes diametrically opposite processes are constantly occurring, so attempts to make the human body an object of study only in terms of mathematical context are unacceptable. [17].

The problem of complex assessment of human health has not yet been resolved. In international practice following integral indicators are known:

- Human Development Index (HDI) - an integral indicator, consisting of three main components, reflecting average life expectancy, education and standard of living.
- DALY (disability-adjusted life years) - used to measure global disease burden through quantitative integrated health assessment (number of years of disability-adjusted life).
- QALY (quality of life outcome / endpoint) - an index that reflects the quality of life.
- DALE (disability adjusted life expectancy) - life expectancy lived in full health.
- HALE (healthy life expectancy) - healthy life expectancy.
- years of potential life lost - an indicator that allows you to determine the number of years of life lost as a result of premature death.
- medico-social capacity to work - the percentage of the number of years of future employment of the population to the maximum possible number of years of employment, unless it is limited by illness and injury.
- indicator of medical and demographic well-being - an index calculated by the method of rank estimation, which allowed to compare homogeneous medical and demographic indicators [17].

In the search for universal criteria for integrated health assessment, researchers (doctors, psychologists, sociologists, etc.) are increasingly turning to quality of life. Moreover, in today's context, assessment and achievement of quality of life is of political importance, which is actualized by the dynamism of socio-economic transformations. One of the leading theories from which the concept of "health" is considered is adaptation. The transition from health to illness is considered in this case as the process of reducing the degree of adaptation of the organism to environmental conditions, the result of insufficient adaptation mechanisms, their exhaustion and disruption. The idea of using adaptability as an integral indicator of health emerged in the 1970s. According to these views, health is considered as the ability of the body to adapt to environmental conditions, and illness - as a result of adaptation failure. Adaptive reactions of the organism were thus suggested to be estimated mainly by the indicators of the circulatory system. This approach was further developed in the works of Amosov, Arshavsky and Apanasenko, who proposed to determine the "amount of health" by the body's physiological reserves, that is, the maximum productivity of organs while maintaining the qualitative limits of their functions in response on physiological stress, most often in the form of physical activity.

One of the first who tried to evaluate the diagnostic efficiency and informativeness of modern methods of quantitative assessment of adaptive capacity and individual health was Bezmaternych L. E. Most modern methods of quantitative assessment of health are characterized by a high dependence of the value of the integral index on the state of the cardiovascular system. Among the common methods of quantitative assessment of health there are methods of R.M. Baevsky (level of adaptive potential); G.L. Apanasenko (level of somatic health); K. Cooper (maximum oxygen consumption). Bezmaternych L.E. has found the most informative physiological indicators, the magnitude of which most clearly responds to the loss of health in the development of the disease: blood pressure, heart rate at rest and dosed physical activity, an integrative indicator of the effectiveness of providing the body with oxygen, maximum consumption of oxygen, tension index, Kettle index, level of physical, mental and social satisfaction. Research conducted by L.E. Bezmaternykh on healthy and sick individuals allowed us to construct an integrative index of loss of health on the basis of Fisher's linear discriminatory model [11, 16, 17].

Conclusions. Thus, the problem of health is complex and is studied by many different sciences, but in modern conditions, a healthy lifestyle is a determining factor in maintaining and promoting health in working-age young people. In order to influence the behavior of young people, the great efforts of the individual, family and society are needed. The only radical way of solving the problem is a radical restructuring of our views on the causes and consequences of our condition, and formation of the foundations of a healthy lifestyle will help to achieve the necessary results by restructuring the system of education and upbringing in youth of self-responsibility and a sense of self-preservation, which will help in the development of harmonious, responsible, purposeful and happy person.

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