

Some latest health-saving pedagogical technologies for teaching schoolchildren are hygienically assessed. Health-saving principles of school education are formulated.

**Key words:** health-saving pedagogical technologies, indicators of mental work capacity, dynamic of mental work capacity.

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## THE RELATIONSHIP BETWEEN HEALTH, COPING WITH STRESS AND THE APPEARANCE OF PSYCHOSOMATIC DISORDERS. SELECTED ASPECTS

Статья посвящена исследованию избранных аспектов, определяющих взаимосвязь между здоровьем, борьбой со стрессом и внешним проявлением психосоматических расстройств. В этом контексте рассматриваются проблемы преодоления препятствий для улучшения здоровья (внешних — неблагоприятные внешние условия, и внутренних — дискомфорт, элементы усталости), возникновения чувства личной компетентности. Обсуждается, что междисциплинарный, продуманный подход к проблеме, нацеленный на улучшение психофизического функционирования человека, умножает и усиливает терапевтические эффекты. Важным авторы считают рассмотрение решения проблемы на стыке медицины, физиотерапии и психологии.

**Ключевые слова:** психическое здоровье, соматические расстройства, беспокойство, интерактивный подход

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In the present article we discuss the problem of the relationship between emotions, coping with difficult situations and the appearance of psychosomatic disorders. Not everyone can deal with the tension. Spreading the knowledge concerning and the appearance of psychosomatic disorders is favorable to the access to help and therapy. The notion of psychosomatic disorders is traditionally used to refer to ailments or somatic illnesses caused by psychological factors. As it was said before, the list of psychosomatic illnesses has not been established and it has not been closed yet. The main criterion of separation is the conviction about the existence of a close connection between the mental condition and the condition of an organism.

Emotional stress has been connected with the development of psychosomatic disorders for long. In most cases when stress is of a short-term, alarm reactions do not cause dangerous results when it has a chronic character, the accumulation of physiological reactions can cause disorders in the blood circulation system. If stress has a very high level, is particularly strong, the results of it can cause the disorders in heart functioning. Any requirements imposed on the body cause simultaneously: psychological stress (changes occurring at the level of regulating mechanisms, in the emotional-motivating area of the central nervous system) and biological stress (including all the autonomic reactions occurring in the body). The response of the body to stressful conditions is controlled by the sympathetic part of the autonomic nervous system and by the endocrine system of the hypothalamus-pituitary-adrenal axis. Once the sympathetic system is activated, immediate physiological reactions take place: tachycardia, tachypnea, redistribution of blood flow (blood outflow from the skin to the skeletal muscles). The effects of activating the hypo-thalamus-pituitary-adrenal axis appear much later (up to several hours from triggering the activating factor) and they persist up to for a few days [1; 8; 9].

The requirement to fulfill duties by an individual (whether healthy or ill) always evokes the same defense reaction. It is stress i.e. a state of an increased emotional tension, accompanied by soma-tic reactions caused by neuroimmune-hormonal response of the body. If stress reaction is disproportional (insufficient or excessive) to the actual situation and to current capabilities of an individual, it may lead to a dissonance or even to a threat of maintaining a homeostasis [4].

*Psychosomatic disorders — physical or (and) psychological character?*

In the academic terminology of the international system of the classification of illnesses and medical problems psychosomatic disorders refer to the effects induced by psychological factors that are revealed by the means of symptoms of a physical character. Among the most popular are the following: rashes, skin irritation, teeth gnashing, pain (of an unknown origin), breathing disorders, blood circulation disorders and constant unpleasant anxiety. These ailments, so characteristic for many different types of illnesses, in this case have one common feature i.e. it is impossible to indicate unambiguously the physical reasons of their appearance. Psycho-somatic disorders are also referred to as neurotic disorders, the reason for which is stress that itself has a negative impact on the physical condition of an organism (figure 1).

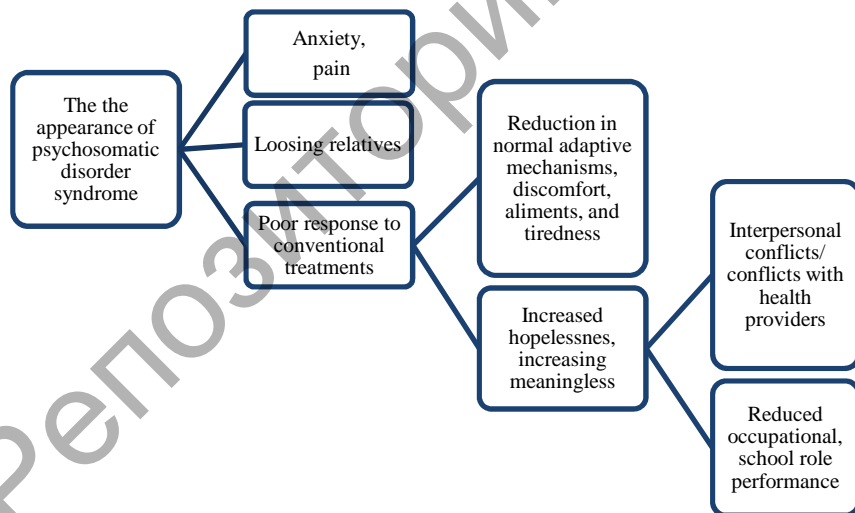


Figure 1 — The appearance of psychosomatic disorders

It is hard to list a definite range of illnesses that make characteristic psychosomatic ailments. In the past such a division existed and was accepted. Then the following were included to the group of psychosomatic illnesses: anorexia, asthma and even arthritis. At present the above list is considered to be a nonsense as each illness makes our mental mood worsen and can be referred to as a psychosomatic illness [9]. Studies reveal that the psychosomatic disorders associated with mental stress are due to the hyperactivity of the nerve impulses sent from the brain to the other parts of the body, which can cause the secretion of adrenaline into the blood, leading to a state of fear or anxiousness. This condition can be triggered by various life factors. According to Antoni Kępiński out of all the plagues a human being has experienced we are most helpless while facing stress and fear, as their sources often lie in the social life. Stress and the accompanying fear are common in the world of human experience and have many different shades what makes it difficult to explain or even rationally classify them, as the world of personal experience in contrast to the surrounding world cannot be easily classified [2].

The first classification includes difficult situations that release the fearful situation and it can be divided into four main groups. Threats connected with the immediate life threat, social threat, impossibility of undertaking a proper decision of activity and destabilization of the existing structure of interaction with the surrounding world. The stress connected with the fear of losing a value that is important at that moment in life. In the subjective perception of an anxious person everything can be threatened with loss. It concerns physical threats such as: life loss, the appearance of an illness, disability, but also social ones such as: the loss of work, discredit, and ostracism. That type of a situation reveals stress that is connected with both: a real threat and an anticipated threat i.e. predictable threat. The predictable threats are of a different character than the real ones. The real threats concern the physical factors such as: climate factors, noise, vibrations, lights, ionizing radiation, hypoxia (lack of oxygen), changes of pace, chronologic factors such as: change of twenty-four-hour rhythm, biological rhythm, time zone etc.

As it was said above, social threats resulting from social roles that a man has to play in life are also the key ones next to physical threats. They include the necessity of being competitive, falling under permanent assessment of others etc. Since the 90ies, thanks to psychoimmunology, it has been known that chronic stress connected with the

lack of sleep considerably lower the potential of the immunology system. Both groups of the types of threats can cumulate in an everyday life. The division presented above is of an academic character.

The second type of “difficult situations” that cause fear are the so-called conditions of deprivation. Deprivation concerns the lack of something, being deprived of something. The situations connected with sensory deprivation, boredom, monotony are among others: loneliness, social isolation, separation from the environment, information, interpersonal communication, culture, but it also is penalty, humiliation, being imprisoned within a certain social role.

The third type of a “difficult situation” is overloading (or redundancy). This notion concerns the excess of different impulses that appear in life. While the short-lasting overloads lead towards tiredness or exhaustion, the long-lasting ones chronically lead to many psychosomatic disorders, including, first of all, the disorders in the blood circulation system. The overload concerns the intensity of stress that causes the decrease of psychomotor ability of a man [2]. Persons who experience stressful difficult situation, important events like frequent illness, fear, depression, anger, guilt, insecurity, and other are also susceptible to this disorder. However, not all people experience psychosomatic disorders as they do not only depend on the situations but also on the personality of a man. For example differences were observed between UC patients (Ulcerative Colitis patients) and their healthy family members, in terms of personality factors. Type D personality may be regarded as an important factor that may bring about some adverse effects in QOL (Quality of Life) among UC patients [5]. The people who are under the pressure of time, too ambitious, competitive can react to the situations of deprivation, overload, and disorder stronger that results in the feeling of frustration, loss, and helplessness. It causes increased blood pressure that can lead to the heart attack [6]. According to these authors people who show high level of hostile attitude five times more frequently suffer from ischemic heart disease Depressive disorders of different etiology in the case of the patient after heart attacks increase the risk of death regardless from physical factors five times.

*Conclusions.* Summing up the information included in the present paper, we can say that the connection between mental and psychosomatic disorders is multilayer and complex. Difficult daily

situations and anxiety is an inseparable part of our lives - present, past and future. Our mental health and stress tolerance depend on many factors but among them there are also the ones that can be influenced by us, including: mental approach, attitudes, development of pro-health activity. Shaping them consciously, we can improve the quality of our lives. Many fields of science provide us with particular indications which aspects of our life should be dealt with to strengthen health in its every aspect. There are substantial reasons that let us think that identifying the factors that favor more effective coping in difficult daily situations of experiencing pressure. Among the psychological factors that increase man's possibilities concerning strength and persistence in fulfilling aims, overcoming obstacles (external, such as unfavorable outside conditions) and internal (e. g. discomfort, ailments, and tiredness) there is the *feeling of personal competence* [3]. Practice corroborated with increasing amount of scientific research, shows that an interdisciplinary, thoughtful view on the problems connected with the improvement of an individual's psychophysical functioning multiplies and strengthens therapeutic effects. This issue is considered at the junction of medicine, physiotherapy and psychology [2; 7; 9; 10].

The article is devoted to the study of selected aspects that determine the relationship between health, the fight against stress and the external manifestation of psychosomatic disorders. In this context, problems of overcoming obstacles to improving health (external, such as unfavorable external conditions, and internal (for example, discomfort, elements of fatigue)) are considered, the emergence of a sense of personal competence. It is discussed that an interdisciplinary, thoughtful approach to the problem, aimed at improving the psychophysical functioning of a person, multiplies and enhances the therapeutic effects. The authors consider as important the solution of the problem at the junction of medicine, physiotherapy and psychology.

**Key words:** mental health, somatic disorders, anxiety, interactive approach.

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