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Stress and Anxiety Disorders in Our Daily Lives, and Their Management

Abstract

Higher nervous activity is highly dependent on both external environmental conditions and the internal state of the organism. Inadequate nutrition, lack of regular rest, general illnesses, and physical inactivity can impair the cerebral cortex, its functions, and higher nervous activity. Short-term processing of a large volume of information or excessive mental and emotional stress has a significant impact on a person's higher nervous activity. Physical activity and strengthening the body help maintain and enhance health. These factors increase the organism's work capacity and improve defense and adaptation reactions. Physical exercises not only prevent diseases but also play an important role in the treatment of various illnesses. A person's physical health depends on their mental state, the ability to control emotions, eliminating emotional dissatisfaction, and forming harmonious relationships among people of different temperaments within a group. It is the duty of a cultured person to learn how to influence the functions of the body using all available means, including their feelings, emotions, and thoughts. Factors that harm health include infections, excessive cooling or heating of the body, improper nutrition, lack of physical activity, injuries, consumption of alcoholic beverages, smoking, poisoning, and various types of radiation (ultraviolet and X-rays). Excessive mental and physical labor, industrial and household noise, insufficient sleep, and poor rest can also lead to the deterioration of a person's health.

Keywords: *nervous system, emotions, anxiety disorders, depression, higher nervous activity*

Introduction

Human beings emerged through a process of evolution that lasted millions of years. With the development of their consciousness and the creation of tools, humans separated from the animal world and became social beings. Throughout the course of historical development, humans acquired a number of unique adaptations. The advancement of science has made it possible to uncover previously unknown secrets of nature and to intervene in hidden processes occurring within the human body. In the organism, which constitutes a complete unity, the nervous system plays a crucial role in ensuring the coordinated functioning of different organ systems. Through the activity of the nervous system, the organism establishes a connection with the external environment. A number of complex functions of the human nervous system distinguish humans from animals. Human conscious activity, the changes made in nature, social interactions, and achievements in science are all the result of complex processes occurring in the brain. The nervous system coordinates the work of all organs in the body: "commands" are sent from the brain to the working organs, and information about their functioning is received back from the organs. Certain physiological observations can also be conducted on humans. During changes occurring in the organism, weak electrical currents are generated in some organs. These currents vary depending on the condition of the organism. By recording these currents, the functions of certain organs are studied and changes occurring in them are identified (for example, the bioelectrical currents of the brain are recorded using an electroencephalograph device) (Mammadova, 2015). The importance of the nervous system in the life of living beings is immense.

Salivation, the secretion of gastric juice and sweat, changes in the diameter of blood vessels, and withdrawing our hand when touching a hot object—all these reflexes occur with the participation of the nervous system (Mammadova, 2019).

Methods

All the functions of our body depend on the nerves. The brain, spinal cord, and nerves work only in coordination. Human consciousness, feelings, speech, vision, and hearing are carried out with the help of the nerves (Huseynov, 1998). In response to a stimulus, the activity of many organ systems undergoes coordinated reflex changes. Such harmonized reflex activity arises as a result of the interaction between excitation and inhibition processes in the central nervous system. The excitation of neurons leads to the occurrence or strengthening of certain reflex reactions, while the inhibition of neurons causes other reflexes to weaken or completely cease (Tsuzmer, 1987). Humans are not only biological but also social beings. Every individual is a member of society. People cannot live without communication; they form families and communities. Therefore, each individual's psyche is shaped under the influence of society, its moral norms, ethical laws, and rules of behavior. Conversely, the psychology of each individual also exerts a certain influence on social thinking. The strength of this influence depends on many factors and on the characteristics of the individual. Based on various needs, specific mental states arise in a person, including personal perceptions, images, concepts, feelings, thoughts, and emotions (Eybatov, 2012). The concept of higher nervous activity includes all nervous processes that form the basis of human behavior. The brain constitutes the foundation of higher nervous activity. The ability of animals to perceive patterns between objects and events and to use this knowledge in new conditions is called intelligent activity; in animals, this occurs through analyzers (the first signaling system), whereas humans also use speech (the second signaling system) for this purpose. The fundamental principles of higher nervous activity explain the natural physiological mechanism of the joint functioning of the first and second signaling systems and also make it possible to determine how high achievement in the learning process can be attained (Najafov, 1989). The ability to present and transmit one's attitude toward objects and events to others through words and images is called thinking. Thinking includes operations such as analysis, synthesis, comparison, abstraction, and generalization. The emotional manifestations experienced by a person in connection with changes in their attitude toward themselves and the surrounding world are called emotions (from Latin *emoveo* – to excite, to agitate). By their nature, emotions can be positive (joy, satisfaction, pleasure, admiration, etc.) or negative (anger, hatred, fear, sorrow, grief, sadness, etc.). During all emotions, the nervous system becomes activated, and the amount of biologically active substances in the blood increases. At this time, the organism mobilizes its strength.

Each emotion is accompanied by expressive movements. A person's emotional state can be determined by changes in posture and gait, gestures, facial expressions, intonation, and the speed of speech. Expressive movements are the language of emotions; they do not require translation and reduce the tension created by emotions (Mammadov, 2019). A person not only perceives the surrounding world but also influences it. They have their own attitude toward all objects and events. While reading a book, listening to music, answering a lesson, or communicating with friends, a person may feel joy, sadness, grief, or excitement. The changes that occur during similar emotions are the same in all people. Therefore, expressions such as "I was scared to death," "my hair stood on end," "I was trembling," or "my heart almost stopped from joy" are familiar to everyone. Such reactions that occur during emotions have great physiological significance. They mobilize the body's strength and prepare it either to accomplish a task successfully or to protect itself. Several years ago, scientists photographed a series of facial expressions showing people who were joyful, sad, frightened, angry, and surprised. These photographs were then shown to children in many countries around the world. It was found that regardless of nationality, traditions, or upbringing, children accurately identified the emotional states of the people in the photographs. By observing the expression of feelings, we understand what others are experiencing, and their state also affects us: we sympathize, feel compassion, and share their sorrow. At times, however, we may be unable to restrain our expressive

movements and “control our feelings.” Qualities such as willpower and self-control are acquired through education and self-education and indicate a person’s high level of culture (Tsuzmer, 1987).

Results

One of the most important characteristics of personality is a person’s beliefs, ideas, and goals. This also includes the individual themselves, the people around them, and society as a whole. Volitional traits occupy an important place in a person’s character (Eybatov, 2023). Factors present in both the internal and external environment surrounding a person, which gradually exert a toxic effect on the organism, cause stress. The theory of stress was developed in 1936 by the Canadian scientist Hans Selye. The word “stress” means tension. According to H. Selye, all negative factors affecting the organism can lead to stress. He studied in detail the functional relationship between the adrenal glands, the pituitary gland, and the hypothalamus. He demonstrated that when the impact of harmful factors on the body is prolonged, the secretion of hormones (glucocorticoids) by the adrenal glands into the bloodstream becomes depleted, resulting in severe stress (Aliyev, 2005). Stress, often described as a disease of modern society, is in fact a part of everyday life. Factors that cause stress include fear, illness, fatigue, noise, conflicts, air pollution, and sudden temperature changes. The combination of psychological and physiological reactions given by the organism to frightening and dangerous situations encountered in life is called anxiety. When a person’s life is in danger, feelings of fear and anxiety arise in every individual. However, if excessive fear and anxiety occur in response to a situation, or if these feelings arise without a real basis, such conditions are called anxiety disorders. Their types include:

- Generalized anxiety disorder (constant worry about one’s own health or the health of relatives, persistent concern about financial status, unfounded fears about safety, etc.);
- Social phobia (fear of eating in public, speaking in front of others, asking questions, etc.);
- Agoraphobia (fear of leaving home, being in public places, going to shopping centers, or being in crowded, narrow, or enclosed spaces);
- Panic disorder (recurring panic attacks accompanied by symptoms such as rapid heartbeat, shortness of breath, suffocation, dizziness, chest pain, numbness in hands and feet, sweating, a sense of unreality, fear of losing consciousness, and fear of death) (Mammadov, 2019).

Furthermore, stress and sleep quality are interrelated, and each affects the other in a bidirectional manner (Park, 2021). A recent systematic review concluded that even low amounts of physical activity in a week can reduce the risk of developing depression by up to 18% compared to no activity (Pearce, 2022).

Currently, one of the most widespread mental disorders among people is depression. Depression is accompanied by symptoms such as low mood, hopelessness, sadness, insomnia, loss of appetite, anxiety, fatigue, feelings of worthlessness, and intrusive thoughts. Social, biological, and psychological factors contribute to depression, and it can occur at any age. Its duration may vary from several months to several years. It occurs approximately twice as often in women as in men and is characterized by persistent mood disturbance, melancholy and agitation, slowing of thinking and speech, and motor inhibition. When the condition becomes severe, individuals tend to blame themselves and develop a pessimistic outlook on the future (Paliyev, 1985). The fundamental principles of higher nervous activity not only explain the natural physiological mechanisms of the joint functioning of the first and second signaling systems but also make it possible to determine how high achievement can be attained in the learning process (Najafov, 1989). It has been established that the level of adrenaline increases in the blood of people experiencing negative emotions. This disrupts the functioning of many internal organs, including the liver, kidneys, and stomach. Therefore, during stress, grief, receiving bad news, or intense excitement, appetite often decreases. It should be noted that even ancient thinkers and physicians were aware of the harm of overeating during negative emotional states. For example, Hippocrates recommended that excited athletes eat 2–3 hours after exercise. The famous scholar, physician, and philosopher Ibn Sina stated that eating and drinking are beneficial only when the body is calm (Mikhaylov, 1991).

Discussion

The nervous and endocrine systems coordinate the functioning of all organs. The nervous system regulates processes through electrochemical signals—nerve impulses (Khan, 2018). In humans, the maximum transmission speed of nerve impulses reaches up to 120 m/s (Khan, 2014). Behavior manifests itself as a result of the interaction between mental and psychological processes. This becomes possible through learned and hereditarily reinforced reflex reactions and habits. A person grows and develops under the control of two programs—biological and social. The social program refers to the formation of personality under the influence of the external environment and the people surrounding the individual (Aliyev, 2007). Despite their negative effects, greater public awareness is required to highlight these direct links (Wezyk, 2024). The effectiveness of lifestyle interventions on mental health is known (Walburg, 2023). A healthy lifestyle effectively reduces depression and anxiety (Wong, 2022). Mental disorders are among the conditions that place a high burden on healthcare (Santomauro, 2021) and remain among the primary causes of disease burden worldwide. However, there is no evidence of a decrease in this burden compared to previous decades. Given that depression and anxiety are more prevalent among women, the specific impact of lifestyle interventions on these disorders in women has been understudied (Farhane-Medina, 2022). Health is one of the primary and most important needs that determines a person's ability to work and ensures the harmonious development of their personality. Health is not only the absence of physical defects and disease but also a state of complete physical, mental, and social well-being. In other words, it includes the physical and psychological condition perceived through a person's feelings, as well as their emotional state (Salimov, 2014). The environment in which a person lives and works also influences their behavior and mood. Conflicts occurring in the family, at school, or at work can cause unfavorable changes in a person's psyche. Such individuals may become harsh and rude, or withdrawn, reserved, and overly sensitive. Unfavorable environmental factors can disrupt higher nervous activity both in the short term and in the long term. These disturbances are not always associated with damage to nerve cells. One of the factors causing excessive functional strain on the nervous system is interpersonal conflict, which may lead to states of anxiety. In such cases, the processes of excitation and inhibition in the cerebral cortex are disrupted, which in turn impairs the formation of conditioned reflexes and leads to memory weakening and insomnia. The central part of the analyzers constitutes the higher division and is located in the cerebral cortex. Here, the incoming excitation undergoes fine and precise analysis, resulting in sensation and perception (Baku State University, 2007).

Conclusion

In summary, it becomes clear that when harmful factors affect the organism over a prolonged period, the synthesis of hormones secreted by the pituitary gland, adrenal glands, and hypothalamus is depleted. This leads to functional disruptions due to severe mental stress, and in many cases, treatment becomes difficult. How can health be preserved in such situations? The best results can be achieved through physical exercise, physical education, spending time outdoors, water and sun baths, and maintaining a healthy lifestyle. For children, the foundation of health and physical development should be laid from birth until school age through morning exercises, active games, and walks. During the school years, in addition to morning exercises, health can be maintained through hiking, training in various sports, and other physical activities. These practices positively influence the development of the nervous system and enhance the body's resistance to diseases. Following these measures improves work capacity and ensures that protective adaptive responses function normally. Sometimes, if the causes of disrupted processes are eliminated, the processes themselves can recover. For this, simply changing the environment and getting adequate rest is sufficient.

If a person is truly a personality, they remain steadfast, relying on their inner confidence even in the most difficult life trials, defending and protecting themselves. The ability to show dedication or commitment to something is a feature of personality, through which knowledge, skills, capabilities,

and desires are revealed. In other words, if the society surrounding a child does not teach them to be upright, cultured, and virtuous, the child may pass these deficiencies to the next generation.

Everything discussed so far about human psyche relates to personality. Personality is a unique individual distinguished by physical, physiological, and psychological qualities. A person is not born a personality but becomes one through life experiences. The inner world of a personality is shaped through interactions with other people. One of the essential traits of personality is stability (consistency). A person with personality can maintain their life goals and relationships even under severe life challenges. Interaction with others, building personal relationships, self-awareness, and self-evaluation are crucial stages in personality formation. Establishing friendships, showing genuine interest in the work of others and the collective, and upholding principles should all be linked with mutual responsibility and accountability.

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