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THE IMPACT OF STRESS ON HUMAN HEALTH AND ACTIVITY

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Abstract: This article analyzes the nature of stress, its causes, its effects on the human body, and methods of stress management based on scientific sources. In modern society, technological progress, the increasing complexity of social relations, and the accelerated pace of life have made stress an integral part of human existence. Research confirms that stress negatively affects human health, work productivity, and psychological well-being. The article provides detailed information on the biological and psychological mechanisms of stress, its adverse consequences, and ways to prevent and manage it.

Keywords: stress, psychology, mental health, emotional strain, stress management, adaptation, health.

Introduction Although the 21st century is characterized by human progress and technological development, psychological problems continue to increase. Stress, in particular, has become one of the most pressing issues of modern times. In daily life, individuals encounter various challenges, responsibilities, time constraints, economic difficulties, and social pressures. These factors create psychological and physiological tension within the body.

The concept of stress began to be scientifically studied in the mid-20th century. Today, stress has become an important subject of research not only in psychology but also in medicine, biology, pedagogy, and management sciences. The negative consequences of stress can harm both mental and physical health.

The purpose of this article is to explain the essence of stress, analyze its impact on human activity, and develop scientifically grounded recommendations for reducing stress.

The Concept of Stress and Its Scientific Interpretation

Stress is the body's adaptive response to external or internal influences. This term was introduced into science by the Canadian scientist Hans Selye, who defined stress as the body's general response to any demand.

According to Selye's theory, stress develops in three stages:

1. Alarm Stage

At this stage, the body perceives a threat or danger. As a result, the production of hormones such as adrenaline and cortisol increases. Heart rate accelerates, blood pressure rises, and the body enters a defensive state.

2. Resistance Stage

If the stressor persists, the body attempts to adapt to it. A person may continue normal activities outwardly, but internal resources are actively consumed.

3. Exhaustion Stage

When stress continues for a long period, the body's defense mechanisms become weakened. As a result, various diseases may develop, immunity may decline, and psychological disorders such as depression may occur.

It should be noted that not all stress is harmful. Short-term stress can motivate a person to become more active and productive. This type of stress is known as eustress. Negative and prolonged stress is referred to as distress.

Causes of Stress: Various factors contribute to the occurrence of stress. These can generally be divided into external and internal factors.

External Factors

Social Factors: Changes in society, economic difficulties, unemployment, family problems, and social pressure can significantly affect an individual's psychological state.

Educational and Occupational Activities: Among students, examinations, assessments, and academic workload are major sources of stress. Among employees, excessive workload, management demands, and deadline pressure intensify stress.

Emergency Situations: Natural disasters, pandemics, wars, and other emergencies are also powerful stressors.

Internal Factors

Personal Characteristics: Some individuals are highly sensitive to emotions and tend to perceive even minor problems as serious challenges.

Perfectionism: The desire to perform every task perfectly often leads to excessive psychological strain.

Negative Thinking: Constant worry about the future and fear of failure contribute to increased stress levels.

The Impact of Stress on the Human Body

Stress affects nearly all systems of the human body.

Cardiovascular System

During stress, heart rate increases and blood pressure rises. Chronic stress increases the risk of hypertension, coronary heart disease, and stroke.

Immune System

Long-term elevation of stress hormones weakens the immune system, making the body more vulnerable to infections.

Digestive System

Many people experience appetite disturbances during stressful periods. Some tend to overeat, while others lose their appetite. Stress also increases the risk of gastritis and stomach ulcers.

In recent years, stress has become one of the most extensively studied scientific topics worldwide. Psychologists, neurologists, and medical specialists have conducted numerous studies to determine the long-term effects of stress on the human body. Research findings indicate that chronic stress negatively affects not only mental health but also all physiological systems of the body.

According to modern scientific perspectives, both biological and social factors play interconnected roles in the development of stress. An individual's genetic characteristics, temperament, living environment, and level of social support are among the primary determinants of stress resilience. Therefore, the same situation may produce different stress responses in different individuals.

Neuropsychological studies have shown that stress affects certain regions of the brain, particularly the amygdala and hippocampus. The amygdala plays a crucial role in regulating fear and threat perception. Prolonged stress may lead to excessive activation of this region, causing individuals to experience heightened anxiety and fear. The hippocampus, which is associated with memory and learning processes, may become less effective under chronic stress conditions.

Nervous System

Stress disrupts the normal functioning of the central nervous system. As a result, headaches, insomnia, reduced concentration, and fatigue may occur.

Endocrine System: During stress, the body produces increased amounts of cortisol. Prolonged elevation of cortisol levels can lead to metabolic disorders.

Psychological Consequences of Stress

Stress significantly influences an individual's emotional state.

Anxiety and Fear: Stressful situations often increase concerns about the future.

Depression: Chronic stress raises the likelihood of developing depressive disorders.

Aggression: Individuals under stress may become more irritable and aggressive.

Reduced Motivation: Persistent stress decreases interest in work, education, and life in general.

Deterioration of Social Relationships: Stress negatively affects relationships with family members, friends, and colleagues.

Stress Among Students

Students are among the social groups most vulnerable to stress. In higher education institutions, heavy academic workloads, examinations, coursework, and concerns about future careers serve as major stressors.

Stress among students is particularly common during:

Examination periods;

Submission of course and graduation projects;

Financial difficulties;

Adaptation periods;

Adjustment to a new environment.

Increased stress negatively affects academic performance by reducing attention, concentration, and memory capacity.

Stress Management and Prevention Methods

Although stress cannot be completely eliminated, it can be effectively managed.

Physical Activity: Sports and regular exercise reduce stress hormone levels and improve mood.

Healthy Nutrition: Foods rich in vitamins and minerals increase the body's resistance to stress.

Quality Sleep: Getting 7–9 hours of sleep per day is essential for the recovery of the nervous system.

Meditation and Relaxation: Breathing exercises, yoga, and meditation help lower stress levels.

Time Management: Planning daily activities effectively helps reduce excessive pressure and workload.

Psychological Support: Consulting a specialist and receiving psychological counseling are effective methods for coping with stress.

Conclusion

Stress is one of the most significant psychological challenges of modern society. Although it is a natural protective response of the body, prolonged stress can seriously damage both physical and mental health. Stress negatively affects the cardiovascular, immune, nervous, and endocrine systems. Furthermore, it may lead to depression, anxiety, decreased motivation, and deterioration of social relationships.

To reduce the negative consequences of stress, it is important to maintain a healthy lifestyle, increase physical activity, manage time effectively, and seek psychological support when necessary. In modern conditions, developing stress management skills is a key factor in improving human health and quality of life.

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