

Peculiarities of the impact of stress on physical and psychological health



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Abstract The article explores the nuances surrounding the concept of stress and examines its effects on the human body from both physical and psychological perspectives. Stress can manifest in two distinct forms, namely eustress and distress, encompassing processes involving stimulation, evaluation, and subsequent reactions. This study provides an overview of the diverse types of stress, classified into three levels based on their severity: mild, moderate, and severe. A focal point of the investigation is stressors, which represent factors perceived by individuals as excessive demands, leading to corresponding emotional reactions often accompanied by varying levels of anxiety. These stressors comprise events that hold subjective significance for a person, eliciting a cascade of physiological reactions while the individual is devoid of relative emotional tranquility. The article delves into the different categories of stressors, describing the various factors contributing to psychological or emotional stress. Furthermore, it outlines three levels of changes caused by stressors. Stress is presented as a multi-phased process, characterized by the anxiety phase, resistance phase, and exhaustion phase, accompanied by intricate biochemical responses. The study also provides a comprehensive overview of the repercussions of stress on the major body systems and the overall psychological well-being of an individual. Emphasis is placed on the structure and significance of stress resistance development, aiming to mitigate the adverse effects of stress. Given the prevailing prevalence of stress and heightened mental pressure in contemporary Ukrainian society, the issue of stress assumes substantial importance in the present era.

Keywords: stress, physical health, psychological well-being, psychology, extreme psychology, crisis psychology

1. Introduction

Currently, Ukrainian society is confronted with the profound impact of the Russian Federation's full-scale armed aggression against Ukraine, resulting in significant upheaval in the lives of millions of Ukrainians. Stress, a multifaceted phenomenon, is commonly associated with adverse emotions. It represents a complex interplay of physical and psychological reactions within the body, serving as an adaptive mechanism to effectively navigate critical situations. During stress, the body releases hormones, accelerating heart rate and priming muscles for potential action, such as fighting or fleeing. However, it is crucial to recognize that chronic stress can yield severe consequences. Short-term stress, often underappreciated, constitutes a fundamental natural survival mechanism that can be harnessed clinically to bolster immune defenses and enhance the immune response. In contrast, chronic stress can lead to the suppression of protective immune responses and may exacerbate pathological immune reactions. Understanding the delicate balance between short-term stress's beneficial effects and chronic stress's detrimental impact is essential for comprehending the intricate interactions between stress and the immune system (Pniewski, 2022).

Modern scientists are carefully investigating aspects of the impact of stress on the physical and psychological components of human health. According to the majority of scientists, stressful experiences are positioned as a component of the normal life process, and, in fact, the reaction to stress is seen as a necessary survival mechanism. At the same time, in the case when stress is negative and its effects cannot be avoided, or takes a long-term or chronic form, the body's biological reactions to stress can have a significant destructive effect on indicators of physical and mental health. Obviously, the longer stress lasts, the worse its effects on the mind and body (Kalmykova et al., 2023).

Stress, as a phenomenon of the general adaptation syndrome, as well as an essential non-specific reaction to a stimulus, leaves a wide field for improving knowledge in the outlined direction. The definition of stress resistance as a basic component of mental health, in synergy with stress reactivity, forms the basis of homeostasis, which involves the involvement of the potential of the body's reserves in the morphological and functional aspect. At the same time, the diagnostic process takes place at different levels, in particular - morphological and physiological, biochemical, hematological and immunological levels,



as well as the levels of behavioral activity, emotional and cognitive spheres. Numerous studies of modern scientists show that the psychophysiological impact of active recreation and cognitive-behavioral therapy is effectively reflected in increasing the level of stress resistance of the body, as well as reducing the impact of stress on the mental health of an individual (Krutsevich et al., 2021).

Special attention is paid to the research topic in the aspect of the state of war, which causes complex multifactorial stress in both military personnel and civilians. In addition, a number of specific problems have been identified in the current stress research base. Thus, the issue of differentiation of physiological and psychological concepts as part of the body's general reaction to stress remains unsolved. Among the little-studied aspects of the outlined problems, the specifics of regulating professional stress are also positioned. The problem of finding optimal ways of operatively leveling the effects of stress, in order to minimize the destructive effect on the human body, requires a scientific solution.

The purpose of the article was to analyze the specifics of the influence of stress, as a multifactorial phenomenon, on the general level and individual indicators of the physical and mental health of an individual, based on an innovative critical approach.

2. Literature review

The research conducted by Tytarenko T. M. and Liepikhova L. A. (2006) focuses on investigating the psychological repercussions of stress overload. Moreover, they propose methods to augment adaptive resources and provide a comprehensive account of independent emergency psychological assistance techniques. The Doctors of Psychology, Kotsan I. Ya., Lozhkin H. V., and Mushkevych M. I. (2011), have systematically collated and analyzed materials on human mental health. Their work encompasses a thorough examination of the concept of psychological and professional stress, exploring the underlying reasons for its emergence and development. In a separate study, the researcher Naugolnyk L. B. (2015) and other esteemed scientists delve into diverse approaches concerning the concept of stress. Their work encompasses an in-depth analysis of stress's causative factors, its various forms, dynamic nature, and approaches to its assessment.

A group of distinguished researchers in the medical sciences, namely Shauna L. Rohner, Florence Bernays, Andreas Maercker, and Myriam V. Thoma (2021), conducted an experiment aimed at elucidating the mechanisms governing the relationship between stress and health. Their investigation delved into the mediating and moderating role of the sense of coherence. In a comprehensive review of the subject matter, eminent American psychologists R. Contrada and A. Baum (2011) provided a detailed analysis of the concept under scrutiny. Their work explored the profound impact of stress on physical health, with a particular focus on the nervous, endocrine, cardiovascular, and immune systems. Moving on, the work of Peter L. Schnall, M. Dobson, and P. Landsbergis centered on the intricate relationship between stress and cardiovascular disease, including an examination of various risk factors. In another line of inquiry, D. Lerner, D. Adler, W. Rogers, H. Chang, A. Greenhill, and F. Azocar studied the effects of work-related stress on human health, particularly in the context of pre-existing comorbidities in employees. A. Roche, V. Kostadinov, and J. Fischer (2020) delved into the unique positive impacts of moderate stress and proposed an expanded list of stress sources, further elucidating the mechanisms governing stress-dependent relationships. Moreover, the immune effects of biological stress reactions, triggered by psychological, physiological, or physical stressors, were explored by F. Dhabhar (1983).

3. Objective

The objective of this study is to conduct a comprehensive analysis of both theoretical and practical knowledge of the influence of stress on human psychological and physical well-being. In alignment with this overarching goal, the following specific tasks have been delineated: (1) to examine the concept of "stress"; (2) to explore the intricacies of this process; and (3) to elucidate the peculiarities of its effects on human health.

The research objectives encompass a thorough examination of the distinctive features and various approaches to defining stress. Additionally, the study aims to identify the principal stages involved in the progression of stress and its ramifications on both physical and psychological health.

4. Methods

1. Systematic Method: This method was employed to examine the specific characteristics of the "stress" concept, its underlying factors, and associated symptoms thoroughly. It allowed for a comprehensive analysis of existing literature and relevant scholarly sources about stress.

2. Study of Regulatory and Instructional Documents: The research utilized this method to gather valuable data from the official websites of pertinent ministries and institutions, as well as public and volunteer centers. The recommendations and information obtained from these sources were instrumental in understanding the problem under investigation.

3. Method of Systematization and Generalization: This method was employed to organize and consolidate the materials discovered during the research process. It facilitated the coherent presentation and synthesis of the collected data, leading to a more comprehensive understanding of the subject matter.

5. Results

Stress is a term of inherent ambiguity, encompassing any disruption in homeostasis. It plays a pivotal role in the survival of organisms by compelling them to adapt to rapidly changing environmental conditions. Notably, in 1936, a prominent Canadian scientist acknowledged as the father of stress research, H. Selye, defined stress. He described it as a general adaptive syndrome, representing a psychological state that emerges in an individual as a response to external factors.

The American psychologist Lazarus R. is credited as one of the early pioneers attempting to differentiate between physiological and psychological stress. Lazarus highlighted that physiological stress is linked to the direct influence of a tangible stimulus, while mental (emotional) stress is rooted in an individual's evaluation of a situation as exceptional, menacing, and arduous. However, it is crucial to acknowledge that this distinction is conditional, as physiological stress can also manifest mental symptoms, and conversely, mental stress can induce physiological changes in the human body (Timchenko et al., 2021).

Humans necessitate a moderate level of stress, both emotional and physical, to facilitate optimal functioning. Within this context, moderate emotional stress plays a constructive role in enabling the body to operate with clarity and coordination. This type of stress is referred to as eustress, which efficiently mobilizes the body's resources without inducing mental imbalance. In the initial stages of event interpretation, individuals formulate their own emotional and behavioral responses. The perceived level of harm associated with the event, whether potentially or actually harmful, influences the likelihood of experiencing distress. Consequently, the evaluation of a threat to well-being prompts negative emotional responses, including fear and anxiety. Consequently, the assessment of an event as a challenge or as a step towards achieving desired goals engenders a positive impact and elicits a motivating eustress effect. In essence, a mild to moderate level of stress, within the realm of manageable coping, ultimately culminates in favorable outcomes. Nevertheless, when the capacity to cope with stressors is exceeded, it poses a threat to an individual's physical and psychological well-being. The concept of "eustress," which denotes a positive response to stressors, has garnered widespread recognition. Notably, H. Selye distinguished individual differences in stress reactivity, encompassing both "distress" and "eustress" as distinct categories (Vysochyna et al., 2023).

The phenomenon of stress exhibits various degrees of intensity. A *mild degree of stress* is indicative of minimal impact, resulting in nearly negligible psychological and physical changes. However, the situation undergoes significant alteration with a *moderate degree of stress*. This level brings about noticeable changes in both somatic and mental states, characterized by pleasant and positive shifts. Individuals experience a general mobilization of resources and heightened mental activity, surpassing their everyday norms. This encompasses enhanced organizational abilities, improved concentration, increased intellectual capacity, heightened self-confidence, prompt reaction times, augmented physical and verbal activity, and an overall positive outlook. In contrast, *severe or very severe stress* elicits the impairment of fundamental physical and psychological functions. Individuals facing this level of stress exhibit diminished conscious control over activities, and encounter difficulties in thinking, concentrating, and memorizing information, leading to an increased occurrence of errors and inaccuracies. Moreover, the role of automatic functions becomes more pronounced during periods of severe stress (Koliadenko et al., 2022).

Moreover, the classification of stress encompasses the identification of several typical types. *Psychological stress* arises from intense emotional experiences that disrupt an individual's psychological stability. It can result from mental overload, wherein a person faces the demand to handle a substantial volume of work with high levels of responsibility. *Physiological stress*, on the other hand, is characterized by the impact of external environmental factors on the human body. This can be triggered by physical overexertion or exposure to harmful elements, such as climate changes, surgical procedures, pain, extreme temperatures (heat or cold), pungent odors, and similar factors. Another category is *short-term stress*, which develops when individuals encounter unexpected or unpredictable interactions with their environment. This form of stress is typically brief and is induced by sudden and acute stressors, such as a loud and unexpected sound, the sudden fall of an object, or an unwanted physical touch. *Chronic stress* represents the most hazardous form of nervous tension. *Social stress* emerges within specific groups of people and is closely linked to economic and political challenges prevailing in society. *Intrapersonal stress* arises from unresolved inner feelings and personal discontentment, leading to prolonged feelings of irritation caused by unfulfilled needs or unrealized aspirations. *Information stress*, on the other hand, is induced by the overwhelming influx of information that an individual encounters. This type of stress results from the difficulty in processing and coping with an excessive amount of information. Among American psychologists, *occupational stress* stands as a widespread and extensively studied phenomenon. This form of stress is a measure of an individual's emotional state arising from various factors, including unexpected situations, tense or conflict-ridden team climates, relationships with management, and both intellectual and physical overexertion. Occupational stress is often compared to a professional crisis, which entails an individual's experience of being unable to realize previously established professional plans and goals. It can also be likened to professional deformation, characterized by alterations in perceptual stereotypes, values, and character traits (Timchenko et al., 2022). Additionally, professional burnout, resulting from excessive workload, is another condition associated with the impact of stress on individuals. These aforementioned conditions can be considered negative consequences stemming from stress. *Financial stress*, on the other hand, arises when an individual's financial expenses surpass their income, leading to economic strain. *Psychosocial stress* is evident through pathophysiological changes in the body that occur due to the challenges encountered in

everyday life. In general, various types of stress can emerge as a result of diverse factors influencing individuals in their respective environments.

Factors that elicit stress in individuals are referred to as *stressors*. Stress, in the form of a cluster of stressors, is perceived by individuals as excessive demands that pose a threat to their self-respect and self-esteem. This perception leads to an appropriate emotional reaction and is often accompanied by varying degrees of anxiety. From a physical perspective, stress manifests as injury, illness, or undue physical exertion. Psychologically, stress is defined as a traumatic environment that serves as a source of pain, anxiety, fear, depression, anger, and tension in individuals. In essence, stressors exert an impact on the physical, psycho-emotional, and social components of human health as an interconnected system.

Several distinct types of stressors have been identified:

1. Emotional stressors, that encompass experiences like interpersonal conflict, the loss of a relationship, the death of a loved one, family member, or spouse, the loss of a child, and similar events.
2. Physiological stressors, including conditions like hunger or food shortages, sleep deprivation or insomnia, severe hyper- or hypothermia, and other physiological challenges.
3. Pharmacological stressors are characterized by the regular and excessive use of various psychotropic drugs, leading to stress-related consequences.

American psychologists have proposed an expanded typology, categorizing stressors as follows:

1. General life stressors, which encompass events such as the loss of a loved one, divorce, and financial problems.
2. Work-related stressors, including stress experienced in the workplace and during retirement.
3. Traumatic events, comprising occurrences like violent crimes and accidents.
4. Physical and mental health stressors, involving conditions such as chronic pain, depression, and anxiety.
5. Insecure housing stressors, which pertain to the lack of stable housing, including primary, secondary, or tertiary housing insecurity.
6. Catastrophic/fatal stress, which involves major disasters and war-related stressors.
7. Childhood maltreatment, including experiences of neglect and abuse during childhood.
8. Gender-specific stressors, involving stressors related to sexual violence, domestic violence, pregnancy/childbirth, parenting, and single parenthood.
9. Racial/ethnic stressors, encompassing experiences of racism and discrimination based on one's racial or ethnic background.
10. Gender identity/sexual orientation stressors, refer to stress arising from discrimination against lesbian, gay, bisexual, transgender, or intersex individuals.

The conceptualization of stress facilitates a distinct examination of various aspects, including:

1. Internal and external events or stimuli that give rise to demands or stress on the body.
2. Nervous processes involved in assessing the demands and evaluating the availability of adaptive resources to cope with these demands.
3. Subjective, behavioral, and physiological activities that signal stress to the body.
4. Neuroadaptations occur within the emotional and motivational systems of the brain in response to chronic stress.
5. Behavioral, cognitive, and physiological adaptations that result from the presence of stressors.

Irrespective of the source of stress, be it physical or mental, the body's responses can be categorized into three levels:

- Physical indicators: These encompass physiological changes like tachycardia (accelerated heart rate), pupil dilation, temperature fluctuations, and confusion.
- Psychological indicators: This level includes emotional and cognitive manifestations such as heightened tension, irritability, feelings of distrust, a sense of danger, and symptoms of depression.
- Behavioral indicators: These pertain to observable changes in an individual's actions and habits, such as a decline or complete loss of appetite, increased irritability, tearfulness, difficulty sleeping (insomnia), the occurrence of panic attacks, and reduced functional performance.

Other indicators of stress can encompass various manifestations, such as an inability to concentrate during activities, frequent errors in tasks, memory impairments, excessive fatigue, rapid speech, scattered or distracted thinking, diminished emotional well-being, reduced concentration, and a state of lethargy, among others.

The progression of stress can be represented schematically as a sequential process with distinct phases, outlined as follows:

Phase I, known as the anxiety phase, involves the body mobilizing its forces and resources to respond to perceived threats. This biological reaction prepares the individual for the fight-or-flight response. Physiologically, this phase is characterized by changes such as thickening of the blood, increased blood pressure, enlargement of the liver, and other relevant reactions.

Phase II corresponds to the phase of resistance. In this stage, if the threat persists and cannot be avoided, the body endeavors to resist or adapt to the stress. The individual's physiological and psychological systems attempt to return to a state of equilibrium.

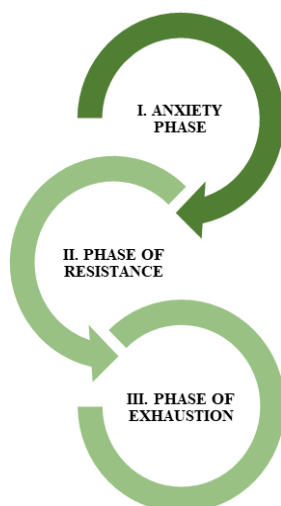


Figure 1 The progression of stress can be represented schematically as a sequential process with distinct phases.
Source: developed by the author.

Phase III is recognized as the phase of exhaustion. Should the effects of stress persist, and if the person fails to adapt adequately, it results in the depletion of the body's resources. The individual experiences fatigue, rendering them vulnerable due to tiredness, and physical health problems may ensue, potentially leading to illness or even mortality. Some reactions that facilitate short-term stress management, such as increased energy when muscles are tense, blocking signs of pain, suspending digestion, and elevated blood pressure, can be detrimental in the long run.

When confronted with a single stressful stimulus, an individual mobilizes the available resources to cope with the emergency. Subsequently, the recovery phase commences, during which the body's functioning normalizes, leading to a state of calmness. However, if two stressful stimuli occur simultaneously or within a short time interval, the body requires additional time to recover fully and restore all body systems to their normal state. In such cases, the process of recuperation is prolonged. Moreover, if a person experiences stress and the period of restoring the body to its normal state has not yet concluded, and they are exposed to new stress without the opportunity for complete recovery, the human body will remain in a state of persistent anxiety. Consequently, the body will continuously operate in a state of readiness for stress, contributing to the depletion of all available resources and adversely affecting overall health (Ivanchenko et al., 2022).

The biochemical process underlying stress encompasses various components of the hormonal system and critical body systems. The reaction initiates when the hypothalamus, a midbrain structure responsible for regulating emotions and unconscious processes (such as temperature, pulse, breathing, water balance, and blood pressure), activates the sympathetic nervous system. The hypothalamic hormone prompts the pituitary gland to release adrenocorticotrophin, which, in turn, interacts with the adrenal hormonal system, leading to the secretion of adrenaline and norepinephrine (which suppresses the immune system). Additionally, the hypothalamus triggers the release of beta-endorphins, acting as natural painkillers that alleviate pain, tension, or physical discomfort. As a result of these hormonal factors, there is a general increase in arousal. Pupils dilate, the sensitivity of skin-muscle perception intensifies, and blood flows towards large muscles while diverting from the intestines. The individual's mental activity is also influenced, with cerebral functions impacted (Popovych et al., 2022). This includes compromised thinking quality, reduced concentration, attentional distribution difficulties, and impaired short-term, working, and long-term memory. Working capacity, particularly intellectual capacity, diminishes, leading to heightened mental fatigue and exhaustion.

The stress response can induce changes in the levels of immunologic factors present in the bloodstream, subsequently impacting neurological functions through their effects on neurotransmitter systems. Oxidative stress, characterized by an elevation in free radicals, can lead to cellular damage, inflammation, or even autoimmunity.

It is worth noting that stress exerts its influence on all physiological systems within the body, including the psychological state.

Musculoskeletal System: In response to stress, the body initiates a reflex action of muscle tensing as a protective mechanism against injury and pain. Prolonged exposure to chronic stress leads to a persistent state of muscle tension, increasing the likelihood of developing disorders. For instance, tension headaches and migraines are often linked to constant muscle tension in the head, neck, and shoulders. Additionally, musculoskeletal pain in the lower back and upper extremities is associated with stress, especially work-related stress.

Respiratory System: Stress can manifest in various respiratory symptoms, including shortness of breath or rapid breathing due to the narrowing of the airways between the nose and lungs. Psychological stressors have the potential to

worsen breathing difficulties in individuals with pre-existing respiratory conditions. Acute stress may also act as a trigger for asthma attacks. Furthermore, rapid breathing or hyperventilation can incite panic attacks in individuals who are susceptible to such episodes.

Cardiovascular System: Immediate or short-term acute stress elicits an increase in heart rate and stronger contractions of the heart muscle, accompanied by the release of stress hormones such as adrenaline, norepinephrine, and cortisol. Blood vessels dilate, resulting in increased blood volume and elevated blood pressure. After the acute stressful episode subsides, the body returns to its normal state. However, chronic or persistent stress can give rise to long-term issues affecting the heart and blood vessels. Prolonged stress may elevate the risk of developing hypertension, heart attacks, or strokes (Ivanchenko et al., 2022). Additionally, repeated acute stress can contribute to inflammation in the circulatory system, particularly within the coronary arteries. This inflammatory process represents one of the pathways through which stress can be linked to a higher likelihood of experiencing a heart attack.

Endocrine System: When an individual encounters a challenging, threatening, or uncontrollable situation, the brain initiates a cascade of reactions involving the hypothalamus-pituitary-adrenal axis. This sequence leads to an upsurge in the production of steroid hormones, particularly glucocorticoids, of which cortisol is commonly referred to as the "stress hormone." During stress, the hypothalamus, a cluster of nuclei that facilitates communication between the brain and the endocrine system, prompts the pituitary gland to release hormones. The pituitary gland, in response, signals the adrenal glands to increase cortisol production. Cortisol serves to elevate the level of stored energy fuel by mobilizing fatty acids and glucose from the liver. Throughout the day, cortisol production follows a natural cycle, with its concentration rising upon waking and gradually declining as the day progresses. In stressful situations, cortisol levels surge, providing the body with the energy required to cope with prolonged or intense events (Popovych et al., 2021).

Glucocorticoids play a crucial role in regulating the immune system and counteracting the inflammatory process. However, chronic stress can disrupt the communication between the immune system and the hypothalamus-pituitary-adrenal axis. Consequently, various conditions may arise, indicating physical and mental health disorders. Such conditions include chronic fatigue, metabolic disorders (such as diabetes and obesity), depression, and immune dysregulation.

Gastrointestinal System: The gut contains an extensive network of hundreds of millions of neurons that function relatively independently, continually communicating with the brain. Stress can disrupt this communication, leading to symptoms such as pain, bloating, and other discomfort in the intestines. Additionally, the intestines harbor millions of bacteria, and stress has been associated with alterations in gut bacteria composition, potentially impacting cognitive processes and emotions. **Esophagus:** During periods of stress, individuals may experience significant changes in eating patterns, consuming either more or less food. Furthermore, stress can lead to increased alcohol or tobacco consumption, which may contribute to heartburn or acid reflux (Vysochyna et al., 2023). **Swallowing food** might become difficult, or individuals may inadvertently swallow more air, leading to symptoms like gas or bloating. **Stomach:** Stress can induce stomach pain, bloating, nausea, and other forms of stomach discomfort. In severe cases of stress, vomiting may also occur.

The nervous system comprises various divisions, including the central division (brain and spinal cord) and the peripheral division (comprising the autonomic and somatic nervous systems). In the context of stress, the *autonomic nervous system* plays a pivotal role, further divided into the sympathetic nervous system and the parasympathetic nervous system. In response to stress, the sympathetic nervous system triggers the "fight or flight" response, mobilizing the body's energy resources to confront life-threatening situations or facilitate escaping from perceived threats. Additionally, the sympathetic nervous system signals the adrenal glands to release hormones such as adrenaline and cortisol. These hormones lead to an accelerated heart rate, increased breathing rate, dilation of blood vessels in the arms and legs, alterations in the digestive process, and elevated blood glucose levels to cope with the exigencies of the situation. Following the resolution of a crisis, the body typically undergoes a gradual return to a state of calmness, primarily facilitated by the parasympathetic nervous system. Nevertheless, excessive activation of the parasympathetic nervous system can also give rise to reactions like bronchoconstriction in asthma or impaired blood circulation. Both divisions of the nervous system, i.e., the sympathetic and parasympathetic nervous systems, significantly interact with the immune system, influencing the way the body responds to stressful events. The central nervous system plays a crucial role in the activation of stress responses, as it regulates the autonomic nervous system and interprets events as potentially threatening (Ivanchenko et al., 2020; Krutsevich et al., 2021).

Male Reproductive System: Excessive cortisol levels can interfere with the normal biochemical functioning of the male reproductive system, leading to reduced sex drive or libido and decreased reproductive ability.

Female Reproductive System: Stress and physical fatigue can diminish sexual desire, particularly in cases of chronic illnesses, depression, or other challenges. Menstrual irregularities and increased frequency of premenstrual syndromes may also occur. Stress can have adverse effects on a woman's fertility, pregnancy, and postpartum adaptation. Depression represents a significant complication during pregnancy and the postpartum period.

In addition to the aforementioned effects, stress is characterized by various changes in the neuropsychological domain. These changes are manifested through symptoms such as irritability, tearfulness, conflict, and anxiety. Additionally, stress can lead to memory impairments, inattention, and anhedonia—a diminished capacity to experience pleasure.

Under the potent impact of stressors, individuals may experience mental disorders of varying degrees. These disorders can be categorized as follows:

1. Disorders that are more likely to develop under the influence of stressors but can also occur without such influence. Examples include depression, psychosis, behavioral disorders, alcohol or drug use disorders, as well as self-harm or suicidal tendencies.

2. Disorders that specifically develop under the influence of stressors. Some instances of these disorders include acute stress reactions, post-traumatic stress disorder (PTSD), and prolonged grief. Typical symptoms encompass constant re-experiencing of stressful situations, a prolonged sense of threat, frequent insomnia, mood fluctuations, and regressive behavior. Mental disorders exhibit diverse manifestations, encompassing an amalgamation of abnormal thoughts, attitudes, emotional and behavioral responses, and interpersonal relationships. These disorders are classified based on their complexity and the intensity of exacerbation. Many mental disorders, including depression, anxiety disorders, and panic attacks, can be effectively managed with timely therapy. However, certain mental disorders present as chronic conditions, such as bipolar disorder, schizophrenia, and psychotic disorders. Consequently, these conditions necessitate both pharmacological and psychological treatments to address their long-term nature and complexity (Havrychenko et al., 2022).

Depression is a mental disorder characterized by symptoms such as hopelessness, loss of interest, decreased satisfaction, reduced energy and self-esteem, and impaired concentration.

Schizophrenia, as a polymorphic mental disorder, profoundly affects thinking, emotions, and general behavior within society. Although individuals with schizophrenia may outwardly appear normal, their demeanor changes when they express their unusual thoughts. Their behavior becomes incomprehensible to others, accompanied by memory difficulties and a tendency to avoid various aspects of life. Delusions and hallucinations are also common in schizophrenia.

Individuals with bipolar disorder experience pronounced mood swings, alternating between periods of extreme elation or happiness (manic episodes) and periods of intense sadness and depression. These mood shifts can persist for periods ranging from 3 to 12 months.

Dissociative disorders can be characterized as a form of unconscious escapism. The symptoms associated with these disorders involve dissociation of thinking and identity, consciousness, and memory. However, it is essential to recognize that these experiences can vary significantly among individuals. Some individuals may feel as though they are observing everything from a distant perspective, while others might exhibit distinct manifestations of split personalities (Veresniuk et al., 2023).

The psychopathological stress reaction typically emerges shortly after the actual emergency, although it may be delayed by several days or, less frequently, persist over a longer period. Post-traumatic stress disorders are typically diagnosed about a month after the traumatic event. Post-traumatic stress disorder (PTSD) manifests as a disruption in the integration of traumatic memories. The key symptoms of PTSD involve the re-experiencing of distressing memories related to the initial traumatic event, leading to attempts to avoid anything that may trigger such memories. Consequently, this avoidance behavior significantly restricts an individual's life space and psychological functioning. Traumatic experiences can be triggered by various stimuli, such as bodily sensations, thoughts, emotions, sounds, places, or situations that resemble the original stressful event. Individuals experiencing post-traumatic stress disorder (PTSD) may encounter memory impairments, difficulties in emotional regulation, concentration, and the development of persistent feelings of shame or guilt. They may also harbor negative beliefs about themselves and exhibit distrust toward others. Without timely intervention, PTSD can persist for years, potentially leading to disability and significant personality changes. Researchers at the H. Kostiuk Institute of Psychology have reported that approximately 30% of individuals face PTSD following traumatic events, and 20% of them struggle to overcome the condition independently, necessitating professional assistance. The success of self-help or treatment for the disorder depends on the individual's stress resilience (Kalmykova et al., 2023).

Several common stressors have been identified that increase the risk of developing a mental disorder:

- Genetic heredity: If parents or close relatives have been diagnosed with mental disorders, there is an increased risk of these disorders occurring in their offspring.
- Environmental factors: Stressful environments such as kindergartens or schools with bullying, associations with negative peer groups, and engagement in dangerous habits, including drug or alcohol use, can contribute to the development of mental disorders.
- Poor physical and psychological health: Infections, injuries, various diseases affecting the brain, nutritional deficiencies, and lack of adequate sleep can also act as stressors that impact mental health.

The significance of diagnosing and selecting appropriate methods for regulating mental states cannot be understated. These measures enable individuals to enhance their functional state, alleviate mental stress, promote self-relief, and foster stress resistance. It is advisable to explore various methods of self-regulation, such as autogenic training, meditation, psychological training, and other forms of general psychological self-education. These approaches empower individuals to actively work on themselves and cultivate improved psychological well-being. Stress resistance encompasses several essential structural elements. The cognitive aspect involves possessing skills and abilities to confront stressful events, setting goals with defined steps for achievement, and exhibiting autopsychological competence. This component enables individuals to comprehend the causes of stress, evaluate the situation, and develop strategies to overcome challenges, providing self-

support. The socio-emotional dimension of stress resilience revolves around understanding and accepting one's emotional state, needs, and desires. Moreover, it involves acquiring socially accepted ways of expressing emotions, regulating feelings, broadening the scope of social roles, and fostering healthy interpersonal relationships. The behavioral component of stress resilience entails modifying individual behavior, formulating effective plans and tasks, and enhancing professional or social endeavors. By proactively changing behavior and adapting to circumstances, individuals can bolster their ability to cope with stress and improve their overall well-being.

6. Discussion

The armed aggression of the Russian Federation against Ukraine has resulted in a notable rise in the incidence of neurological disorders. Stress can exert diverse effects on individuals, influenced by personal attributes, the intensity of stressors, and other factors. Persistent stress and anxiety significantly influence both the quality of life and overall health, underscoring the importance of seeking timely consultation from a qualified healthcare professional. A proficient doctor can aid in identifying the underlying causes of stress and recommend suitable treatments, including medications or alternative approaches such as psychotherapy or relaxation techniques (Herbert, 2022).

As reported by the head of the Ministry of Health of Ukraine, since the onset of Russia's full-scale war against Ukraine, approximately 650,000 individuals have sought assistance from psychologists and psychiatrists within the healthcare system, receiving appropriate psychological support. Notably, a recent survey conducted by Gradus on September 22-26, 2022, revealed that 71% of Ukrainians have experienced stress or severe nervousness. Half of the respondents expressed feelings of anxiety and tension. The prevalence of stress or severe nervousness was higher among women and individuals aged 25-34. The survey also highlighted an important aspect of seeking psychological help, with 49% of respondents believing that such assistance is solely for those with mental illnesses. Consequently, only 2% of the participants reported consulting with specialists like psychologists, psychotherapists, family doctors, or therapists. This finding indicates that although many Ukrainians feel they may need help, there remains a reluctance to seek professional psychological support, underscoring the importance of promoting mental health awareness and reducing the stigma surrounding mental health services (Shytyk and Akimova, 2020).

Therefore, the development of a culture of caring for one's mental health becomes crucial in Ukraine, where it is currently largely absent. Surprisingly, more than 80% of Ukrainians have never sought assistance from a psychologist. In this context, it is essential to endorse and encourage the initiatives of both domestic and international psychological programs. One noteworthy initiative is the National Mental Health and Psychosocial Support Program led by First Lady Olena Zelenska. This program aims to aid citizens in overcoming stress, coping with the effects of traumatic events, and preventing the development of mental disorders. The program operates in coordination with the Ministry of Health of Ukraine, involving the expertise of both Ukrainian and international professionals. Moreover, official state websites disseminate information about available free psychological assistance offered by various public and volunteer centers. These services are made accessible through interactive technologies and mobile applications, making it easier for people to access the help they may require.

7. Conclusions

Stress is a complex and multifaceted phenomenon that profoundly influences human health and overall well-being. The experience of stress initiates when an individual perceives a specific physical or mental threat (primary assessment) within a given situation, either real or perceived. Subsequently, the person recognizes that they may not possess the necessary resources or capabilities to respond effectively to the perceived threat (secondary assessment).

In response to a stressful situation, the human body initiates a cascade of reactions: blood pressure elevates, facilitating increased blood flow to the brain; specific brain regions responsible for vision, hearing, and decision-making become more active; the major body systems (cardiovascular, digestive, immune) intensify their functions; the adrenal glands release hormones; and glucose and fatty acids surge to provide energy. These physiological changes prepare the body for a potential confrontation or response to the stressor. The cognitive functions, which encompass mental processes like attention, memory, learning ability, and thinking, are intricately linked to the human nervous system, particularly the brain, which relies on specialized substances to function optimally. The synthesis of these substances primarily occurs in the cells of the nervous system, tightly regulated by demand. When facing a stressful situation, the human body mobilizes its resources to evade potential dangers. However, prolonged exposure to stress can deplete the supply of these neurotransmitters, resulting in mental fatigue. This can manifest in reduced thought processing speed, decreased concentration, alterations in mood, and changes in how one perceives their surroundings. Consequently, stress can be alleviated if an individual adjusts their perception of the situation to a safer level, employing specific self-regulation techniques or seeking assistance from qualified professionals.

Stress exerts a dual impact on the body: in certain circumstances, it serves as a crucial survival factor and a form of motivation. Nevertheless, the adverse aspect of stress lies in its detrimental effects, disrupting the overall functioning of the body and leading to various psychological or physical disorders and illnesses. When experiencing stress, individuals become

more susceptible to infectious diseases, as the production of immune cells significantly decreases during periods of physical or mental stress.

Ethical considerations

Not applicable.

Conflict of Interest

The authors declare no conflicts of interest.

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