

Neurological manifestations of chronic stress and over fatigue.

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Abstract:

Chronic stress and prolonged over fatigue have a significant negative impact on the nervous system, leading to various neurological manifestations. Persistent activation of the hypothalamic–pituitary–adrenal (HPA) axis results in elevated cortisol levels, which adversely affect neuronal function, synaptic plasticity, and cerebral blood flow. Neurological symptoms associated with chronic stress include chronic headaches, dizziness, sleep disturbances, impaired concentration, memory deficits, and reduced cognitive performance. Over fatigue is often accompanied by increased irritability, emotional instability, and decreased stress tolerance. These conditions may also contribute to the development of autonomic nervous system dysfunction, manifested by palpitations, excessive sweating, tremors, and blood pressure fluctuations. At the neurobiological level, chronic stress alters neurotransmitter balance, particularly serotonin, dopamine, and gamma-aminobutyric acid (GABA), which play key roles in emotional regulation and cognitive processes.

Keywords: chronic stress, over fatigue, neurological manifestations, cognitive impairment, autonomic nervous system dysfunction, neurotransmitter imbalance, sleep disturbances, neuroinflammation

Conclusion.

Chronic stress and overfatigue significantly affect the nervous system, leading to a wide range of neurological and cognitive manifestations. Persistent neuroendocrine activation, neurotransmitter imbalance, and autonomic dysfunction contribute to impaired cognitive performance, emotional instability, and decreased stress resilience. Early identification and timely preventive and therapeutic interventions are essential to reduce neurological complications and improve overall functional outcomes and quality of life. Prolonged stress exposure can also lead to neuroinflammation and oxidative stress, further impairing neuronal integrity and increasing vulnerability to anxiety and depressive disorders. In conclusion, chronic

stress and over fatigue are important risk factors for the development of neurological and neuropsychiatric disorders. Early recognition of neurological manifestations and timely preventive and therapeutic interventions are essential to reduce long-term consequences and improve quality of life.

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