

**Korostiy V., Gaponov K., Markova M., Kozhyna H., Lytvynenko V.**  
**Neurobiological basis of mutual influence of stress burden and alcohol**  
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*Introduction.* The current situation in Ukraine is characterized by multitude social-stress factors, resulting in an increase in alcohol consumption and alcohol addiction, which arises as a mechanism to compensate the adverse mental stress and different variant of chronic stress disorder.

*Objective:* substantiate the neurobiological basis of mutual influence of stress burden and alcohol addiction

*Aim:* to study the biochemical mechanisms that underlie the vicious circle of stress and alcohol addiction

*Methods.* Studies the features of hypothalamic-pituitary-adrenal (HPA) axis under stress and alcohol available in MEDLINE, Institute for Scientific Information Databases (Science Citation Index Expanded and Social Sciences Citation Index), EMBASE, and Cochrane Library were identified and reviewed.

*Results.* Alcohol, just like stress, affects the HPA axis, changing the reaction of its parts and, by reducing the production of cortisol, which produces in response to stress and prolongs subjective experiences of nervous tension caused by stress. Stress, in turn, through the output of cortisol, reduces the effect of alcohol leads to a desire to further alcohol abuse. The system includes elements of the extended amygdala, which have as reinforcement and stress reactivity. Central nucleus amygdala plays a leading role in the reinforcing effects of pharmacological agents with narcogene potential and performs persuasive role in the activation of hypothalamic reinforcement mechanisms. This allows us to consider neurohormonal system, including the amygdala, hypothalamus, pituitary and adrenal glands as structural and functional basis of formation depending on various narcogene, primarily alcohol.

*Conclusions.* Dysregulation of the HPA axis is a neurobiological basis of mutual influence of stress burden and alcohol addiction.