
INFORMATION PLATFORM "CENTER FOR INNOVATIVE THINKING"
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FEATURES OF DOPAMINERGIC SYSTEM FUNCTIONING IN EATING DISORDERS

Abstract. Eating disorders are among the most severe psychiatric illnesses, characterized by high morbidity, mortality, and a tendency toward a chronic course. Contemporary research indicates a significant role of the dopaminergic system in the development of pathological eating behaviors. The aim of this study was to analyze the characteristics of dopaminergic system functioning in various forms of eating disorders and to determine its role in the development and maintenance of pathological eating patterns. A review of current scientific literature devoted to the neurobiological mechanisms of anorexia nervosa, bulimia nervosa, and binge-eating disorder was conducted. It was found that disturbances in dopaminergic neurotransmission are associated with alterations in reward processing, motivation, and habit formation, which underlie pathological eating behaviors [1–3]. Anorexia nervosa is characterized by hyperreactivity of dopaminergic pathways to stimuli associated with weight loss and food restriction, whereas binge-eating disorder and bulimia nervosa demonstrate signs of dysregulation within the mesolimbic reward system, reduced dopamine sensitivity, and compensatory enhancement of food-related motivation [2,5]. The findings emphasize the importance of further investigation of dopaminergic mechanisms for the development of novel therapeutic approaches to eating disorders.

Keywords: dopamine, dopaminergic system, anorexia, bulimia, eating disorders, neurobiology.

Materials and Methods The study employed theoretical analysis, synthesis, and generalization of contemporary scientific literature regarding the functioning of the dopaminergic system in eating disorders. The analysis included clinical, neuroimaging, genetic, and experimental studies published in international scientific journals.

Results The analysis of the literature demonstrated that dysfunction of the dopaminergic system represents one of the key neurobiological mechanisms underlying eating disorders. Differences in the functioning of mesolimbic and mesocortical dopaminergic pathways were identified depending on the type of disorder. Anorexia nervosa is characterized by increased sensitivity to stimuli associated with weight loss, enhanced reward prediction error responses, and the formation of maladaptive eating habits [3–6]. In contrast, bulimia nervosa and binge-eating disorder are associated with dysregulation of dopamine D1 and D2 receptors, the development of a hypodopaminergic state, and increased motivation to consume highly palatable, calorie-dense foods [2,7]. Interactions between dopamine and hormonal regulators of energy balance, particularly leptin, also play a significant role in the formation of pathological eating behaviors.

Conclusions The conducted analysis demonstrated that eating disorders are accompanied by complex disturbances in dopaminergic system functioning, affecting reward processing, motivation, habit formation, and neuroendocrine regulation. Anorexia nervosa is primarily associated with pathological enhancement of dopaminergic responses to food restriction and weight-loss-related stimuli, whereas bulimia nervosa and binge-eating disorder are characterized by dopamine receptor imbalance and reduced sensitivity of the reward system. These neurobiological features support the necessity of a comprehensive treatment approach that combines psychotherapeutic, pharmacological, and neuromodulatory strategies. Further investigation of

the dopaminergic system may contribute to the development of more effective personalized methods for treatment and relapse prevention.

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