

# THE INFLUENCE OF THE “KURGILICIN” COMPLEX ON CLINICAL AND BIOCHEMICAL INDICATORS UNDER EXPERIMENTAL STRESS CONDITIONS

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## Abstract

Stress remains one of the most significant physiological challenges affecting metabolic, endocrine, and neuro-motor functions. This study evaluates the effectiveness of the Kurgilicin complex in mitigating stress-induced alterations in experimental animals. Clinical, biochemical, and behavioral parameters were assessed, with a focus on cortisol levels, emotional reactivity, physical endurance, and neuro-motor activity. Findings demonstrate that Kurgilicin exerts protective and corrective effects by reducing stress markers, enhancing endurance, and stabilizing biochemical indicators.

**Keywords:** Stress response, Kurgilicin, cortisol, oxidative stress, neuro-motor function, experimental pharmacology.

## Introduction

Modern socio-economic and environmental conditions expose individuals to chronic stress factors that trigger pronounced emotional, physiological, and metabolic disturbances. Stress activates the hypothalamic–pituitary–adrenal (HPA) axis and sympathetic–adrenal system, leading to hormonal changes. Pharmacological correction using antioxidant and anti-hypoxic agents is an emerging approach. The Kurgilicin complex is a promising preparation with adaptogenic potential.

## 2. Materials and Methods

- 2.1 Experimental Animals: Rats with varying emotional reactivity were tested.
- 2.2 Stress Induction: Immobilization stress was applied to induce acute psychological and physical stress.
- 2.3 Treatment Protocol: Animals received oral Kurgilicin at 14 ml/kg for 14 and 21 days.
- 2.4 Behavioral Assessment: Forced swimming and open-field tests were used.
- 2.5 Biochemical Analysis: Cortisol and oxidative markers were measured.

## 3. Results

- 3.1 Cortisol Dynamics: Both groups showed a 10–11% cortisol rise after stress; Kurgilicin normalized levels.
- 3.2 Behavioral Performance: Endurance increased by 25% at 14 days and 45% at 21 days.
- 3.3 Neuro-motor Function: Improved coordination was observed in rotarod tests.



3.4 Oxidative Stress: Kurgilicin reduced oxidative metabolites, supporting antioxidant defense.

#### 4. Discussion

Stress activates hormonal and metabolic cascades detrimental to homeostasis. Kurgilicin stabilizes cortisol, enhances endurance, reduces oxidative stress, and improves neuro-motor performance.

#### 5. Conclusion

Kurgilicin shows significant corrective effects on stress-induced biochemical and behavioral disturbances. Further studies are recommended.

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