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THE EFFECT OF *Cosmos caudatus* ON PLASMA CORTICOSTERONE LEVEL FOLLOWING A CHRONIC REPETITIVE FORCED SWIMMING STRESS IN RATS

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Abstract

This study examines the effect of *Cosmos caudatus* on plasma corticosterone levels following a chronic repetitive forced swimming stress (FSS). Male Sprague-Dawley strains of rats weighing 90–120 g were used. The first group was the control, administered only with saline solution. Second and third groups received quercetin (100mg/kg and 200mg/kg) respectively, while the fourth and fifth groups were treated with *C. caudatus*'s extract (100mg/kg and 200mg/kg) respectively. The rats were subjected to FSS for 15 minutes daily. The tests revealed a significant reduction in plasma corticosterone level in all treated groups (except the second group) compared to the control. At the end of the experiment, the third, fourth and fifth groups had a reduction in plasma corticosterone level which were 153.950 nmol/l \pm 2.98, 145.262 nmol/l \pm 2.04, 134.488 nmol/l \pm 2.70, respectively. The group treated with 200mg/kg of *C. caudatus* was most significant in reducing plasma corticosterone ($p < 0.005$). The present study suggests the ability of *C. caudatus* to reduce the plasma corticosterone level.

Keywords

Antioxidant, *Cosmos caudatus*, Chronic Stress, Corticosterone, Quercetin