



## Effect of turmeric extract (*Curcuma longa*) on physiological parameters and neurotransmitters in rats treated by lithium carbonate

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**Abstract:** The present study suggested the therapeutic effect of turmeric (*Curcuma longa*) extract against oxidative stress induced by lithium carbonate ( $\text{Li}_2\text{CO}_3$ ) are studied. The experiment is designed on fifty male rats spread randomly into 5 groups of 10 animals in each group. The first group is received normal saline as normal control, the second and third groups are given lithium carbonate only at dose 4 and 8 mg/kg for induction of oxidative state on rats, While the fourth group is received lithium carbonate at dose 4 mg/kg with turmeric extract (curcuminoids) at dose 1 g for 1 kg of diet and the fifth group is received lithium carbonate at dose 8 mg/kg with turmeric extract (curcuminoids) at dose 1 g for 1 kg of diet. Results showed that oral administration of turmeric extract in rats with oxidative state by  $\text{Li}_2\text{CO}_3$  increase the red blood corpuscles (RBCS), haemoglobin concentration (Hb), packed cell volume (PCV) and decrease the white blood cells (WBCS), erythrocyte sedimentation rate (ESR). At the same time, the results appear increase dopamine level and decrease serotonin level in groups administrated lithium carbonate and curcuminoids. In conclusion: turmeric has beneficial effect against side effects induced by  $\text{Li}_2\text{CO}_3$  in rats.

**Keywords:** lithium carbonate, oxidative stress, blood parameters, liver enzymes.

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