



## Effect of Black Cumin Seeds (*Nigella Sativa*) Ethanol Extracts on Blood Pressure, Proteinuria, and ET-1 Level in Preeclampsia Mice Model

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**Abstract** : Preeclampsia is a pregnancy disorder characterized by systemic hypertension and endothelial dysfunction. Endothelin 1 (ET-1) plays a role in the onset of hypertension, which is the major sign of preeclampsia. Black cumin (*Nigella sativa*) serves as an anti-free radical, antihypertensive, and anti-inflammatory. The purpose of this study was to examine the effect of black cumin seeds extract against ET-1 level, blood pressure and urine protein in preeclampsia mice model. There were six groups: negative control group, positive control group (pregnant mice injected with severe preeclampsia (SPE) maternal serum without black cumin extracts), and 4-doses treatments with the addition of black cumin extracts. Steps of this study were: blood serum collection from research participants, maternal preeclampsia (SPE) serum injections on Balb/c mice, administration of black cumin extract (500mg/kg/d, 1000 mg/kg/d, 1500 mg/kg/d and 2000 mg/kg/d), ET-1 test, proteinuria measurements, blood pressure measurement, and data analysis by using One-Way ANOVA. The results showed that the average value of the ET-1 level, systolic pressure, and urine protein were significantly different in each sample, but diastolic pressure did not provide a significant difference in each sample. Treatment of black cumin (*Nigella sativa*) ethanol extract was proven to have the ability to reduce the ET-1 level, systolic pressure and lower urine protein. The 2000mg/kg/d dose of *Nigella sativa* ethanol extract was the optimum dose to reduce the ET-1 level, systolic pressure and urine protein in preeclampsia mice model.

**Keywords:** ET-1, black cumin (*Nigella sativa*), Balb/c mice, proteinuria, systolic pressure, diastolic pressure, preeclampsia.