

Diabetic Nephropathy (DN) is among the major microvascular complications. Renal Accumulation of Cadmium (Cd) puts kidneys at a greater risk of further aggravation of DN. The present study was designed to evaluate the disease progression of Streptozotocin (STZ) induced DN and Cd aggravation of the disease in mice. For this study Albino mice were used and these mice were divided into 5 group: control group; did not received any type of treatment, Cd exposed group; received intraperitoneal dose of CdCl<sub>2</sub> (1.5mg/kg), Cd exposed group treated with leaf extract: 50mg/kg via gavage feeding alternate days for 3 weeks , diabetic + CdCl<sub>2</sub> exposed group: received single intraperitoneal injection of 120mg/kg of STZ and CdCl<sub>2</sub> 1.5 mg/kg , STZ + CdCl<sub>2</sub> DN aggravated group treated with *Acacia modesta* ethanolic leaf extract; received the STZ and CdCl<sub>2</sub> injury followed by the treatment with leaf extract 50mg/kg via gavage feeding. The result demonstrated that there is a positive correlation between Cd accumulation and DN progression. Moreover, it also explores ameliorative impacts of *Acacia modesta* ethanolic leaf extracts on said DN progression. A significant reduction ( $p < 0.05$ ) in Serum creatinine, urea, uric acid and enhancement in serum albumin was observed in groups treated with *Acacia modesta* leaf extract. In addition, the said extract was able to prevent the histological damages in normal and *Acacia modesta* leaf extract treated groups evident in their less granulated glomerular and tubular structures in renal tissue of the mice. In conclusion Cd was observed to have aggravated STZ induced DN in non-treatment groups while ethanolic extract of *Acacia modesta* leaves was found to have protective effect against DN as observed in *A. modesta* treatment groups.