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Anti-diabetic activity of Azima tetracantha leaves in high fructose induced diabetic rats

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Diabetic is syndrome characterized by deranged carbohydrate metabolism resulting in abnormally high blood sugar level (hyperglycemia). It is caused by hereditary, increasing age, poor diet, imperfect digestion, obesity, sedentary lifestyle, stress, drug-induced, infection in pancreas, hypertension, high serum lipid and lipoproteins, less glucose utilization and other factors. The objective of the present study was to investigate anti-diabetic, nephroprotective and cardio protective activity of Azima tetracantha leaves extract, by using High Fructose induced diabetic rats as model for clinical type-2 diabetic. At a regular interval of experimental protocol blood glucose, urinary creatinine, total proteins, triglycerides, total cholesterol and organs to body weight ratio were studied. Statistical analysis of the results shown that in High Fructose induced diabetic rats chloroform and methanol extracts of Azima tetracantha leaves at 40, 80, 160 and 200 mg/kg doses. Azima tetracantha leaves extract improved renal creatinine clearance and reduce renal total protein loss and reduce the triglycerides, total cholesterol and increases the B-cell count. It is demonstrating nephroprotective and cardio-protective properties due to increase the insulin production. The organ to body weight ratio and the beta cells (per islet section). Azima tetracantha leaves. These results were also supported by The Beta cells (per islet section) count. The findings showed the significant antidiabetic potential of Azima tetracantha methanol extract in ameliorating the diabetic, nephroprotective and cardio protective conditions in diabetic rats. No significant activity was observed in normoglycemic rats.