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Improvement of glucose tolerance and total lipid profile of diabetic rats treated with *Ficus exasperata* leaf-based diet

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The aim of this study was to investigate the effect of *Ficus exasperata* leaf-based diet on oral glucose tolerance and total lipid profile of type 2 diabetic rats. To induce type 2 diabetes mellitus experimental animals apart from animals in the positive control (PC) group were administered orally with 10% fructose solution ad libitum for 2 weeks and PC received distilled water. After 2 weeks administration of fructose solution, animals were fasted overnight and each of the fructose-fed animals were injected intraperitoneally with a low dose streptozotocin (40 mg/kg body weight). Oral glucose tolerance test (OGTT) was done by loading the animals with 2 g/kg body weight of glucose. Following the oral glucose load, blood was obtained at 0, 30, 60, 90 and 120 minutes from the tail vein of the rat and analysed for glucose using a glucometer. The procedure was done on day 1 before treatment and day 13 of the experiment. Cholesterol, Triglycerides, High and Low Density Lipoproteins were

assayed for using commercial kits. The result of OGTT before treatment showed increase in blood glucose concentration after 30 mins of glucose load. Two hours later, glucose concentration for all the diabetic animals was not restored back to the basal glucose concentration. By the 13th day of treatment result showed that glucose concentration of all the diabetic animals treated returned back to the basal glucose concentration after 2 hours of the glucose load. Result of the total lipid profile showed that upon treatment with *F. exasperata* leaf-based diet, there was a significant ($p < 0.05$) decrease in the concentration of cholesterol, Triglycerides and low density lipoprotein and a significant increase ($p < 0.05$) in HDL concentration. In conclusion, incorporation of 30, 40 and 50 % *F. exasperata* leaf into diet, consumed for 16 days improved glucose tolerance and total lipid profile compared to positive control.

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