Abstract

BACKGROUND: Diabetes mellitus (DM) is a group of metabolic diseases characterized by chronic hyperglycemia resulting from impaired insulin secretion, insulin action, or both.

AIM: The purpose of this study was to determine the effect of PRP on changes in blood sugar, HDL, LDL, total cholesterol, and triglyceride levels in blood serum of rats model of complications of DM and dyslipidemia induced by STZ and a high-fat diet.

MATERIALS AND METHODS: This study uses an analytical type of research with a quasi-experimental laboratory design on DM and dyslipidemia rats. Each group was completed into 5 male rats and the number of treatment groups was 6 groups. Group K(-) is negative control (normal) not given any treatment, group K(+) is a positive control induced by STZ 60 mg/kg BW and a high-fat diet, and the Glibenclamide group is a treatment group with glibenclamide 0.498mg/kg, p.o, PRP2 group is the PRP treatment group 2ml/kg BW, p.o, PRP4 group is the treatment group with PRP 4ml/kg BW, p.o and PRP8 group is the treatment group with PRP 8 ml/kg BW, p.o.

RESULTS: Analysis of the concentration of blood sugar levels in male rats in the PRP group of 8 ml/kg BW this study showed a decrease in blood sugar levels (240.03±22.04), LDL (81.62±12.19), total cholesterol (139. 27±15.87), triglycerides (136.17±23.36), and increased HDL (61.30±4.53) compared to the other two PRP treatment groups.

CONCLUSION: This study showed that PRP 8 mL/kg BW had effectiveness in anti-hyperglycemia and anti-hyperlipidemic compared to the PRP treatment group of 2 ml/kg BW and 4 ml/kg BW but was not better than glibenclamide as seen from the decrease in the concentration of LDL levels, total cholesterol, serum triglycerides. blood and better than glibenclamide in increasing blood serum HDL levels.

Keywords: DM, PRP, HDL, LDL