

3.5 Evaluation of the effect of a polyherbal formulation (DML10) on serum glucose levels and lipid levels in rats

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ABSTRACT

The objective of present study was to evaluate the effects of a polyherbal formulation (DML10) consisting of 12 medicinal plant materials on serum glucose and lipid levels in rats. Three different concentrations of decoctions of DML10 (low dose: 32 ± 0.4 mg/ml, mid dose: 65 ± 0.54 mg/ml, high dose: 124 ± 0.93 mg/ml in dry weight of the decoction) were orally administered to three different groups of apparently healthy Wistar rats at the dose of 10.8 ml/kg body weight/day (as a single dose) for 14 consecutive days. The comparable control group received the same amount of distilled water for 14 consecutive days (n =10 for each group). Two weeks prior to the treatment and 14 days after the treatment serum glucose levels and lipid levels were determined using standard methods. All rats were found to be normoglycaemic and normolipidaemic prior to the treatment. The fasting serum glucose level of the rats treated with mid dose of decoction was significantly decreased by 27% in comparison to the control group. Serum triglyceride levels and cholesterol levels of the rats treated with three doses were decreased by 6 - 47% and 6 - 16% respectively in comparison to the controls in a concentration dependent manner. Depletion of lipid levels was significant in rats treated with the mid and high doses of the decoctions. The results revealed that the short term treatment of mid dose of DML10 could reduce the fasting serum glucose levels while both mid and high doses of DML10 were potent enough to reduce serum triglyceride and cholesterol levels in the treated rats.