

## Documents

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**Antidiabetic activity evaluation of polyherbal formulation in type 2 diabetes mellitus patients**

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**Abstract**

**Objective:** The main aim of this research was to evaluate the effect of mixed herbs on blood HbA1c, and the liver function tests in type 2 diabetes mellitus (T2DM) patients. **Methods:** This was a quasi-experimental design where no comparison was made with either placebo or control. We examined the effect of herbs namely, coriander leaves (*Coriandrum sativum*), bunching onion (*Allium fistulosum*), curry leaves (*Murraya koenigii*), and holy basil leaf (*Ocimum tenuiflorum*) among T2DM patients. Fresh herbs were cleaned, freeze-dried, ground, mixed (25 % of each), encapsulated and fed at 4 g/day to T2DM patients for 90 days. Blood samples were collected on days 0, 31, 61, 91 and 121. The effect was assessed on the levels of HbA1c, creatinine, blood urea and liver enzymes i.e., alanine transaminase (ALT) or serum glutamic-pyruvic transaminase (SGPT), aspartate aminotransferase (AST) or serum glutamic-oxaloacetic transaminase (SGOT), alkaline phosphatase (ALP), among the patients. The data were statistically analysed, and the means were regarded as significant at 95 % CI. interval. **Results:** Blood HbA1c concentration was highest on Days 0 and 31 and significantly ( $p < 0.001$  and  $p < 0.01$ ) reduced on Days 61, 91 and 121. The creatinine and urea concentrations were found to increase but not considerable with larger variation among the subjects. The ALT and AST concentrations were found higher ( $p < 0.001$ ) on Day 60 but started to decline afterwards. The ALP levels were higher on the Days 0 and 31 but started declining from Day 61 onwards. **Conclusion:** The consumption of mixed herbs was found to be associated with an improvement of HbA1c level among T2DM patients without having any clinically significant change in blood urea, creatinine, and liver enzymes. © 2023 The Author(s)

**Author Keywords**

Blood urea; Creatinine; HbA1c; Liver enzymes; Mixed herbs

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