

**ASSESSMENT OF ANTIDIABETIC, ANTILIPIDEMIC AND
ANTIOXIDANT POTENTIAL OF POLYHERBAL
FORMULATION**

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The present study was designed to assess the Antidiabetic, antilipidemic and antioxidant potential of polyherbal formulation in streptozotocin induced diabetic rats. Diabetes was induced by single intraperitoneal injection of streptozotocin (50 mg/kg) in male wistar rats. Rats with fasting blood glucose levels ≥ 250 mg/dl, after seven days of STZ administration, were randomized into different groups (six rats each group). The groups were treated with *oral administration of aqueous extract of formulation (250 and 500 mg/kg b.w.) and Glibenclamide (2.5 mg/kg b.w.) for 21 days*. At the end of the study, blood glucose, lipid profiles, enzymatic and non-enzymatic liver antioxidant levels were estimated. Oral administration of formulation for 21 days significantly reduced blood glucose level in STZ induced diabetic rats. *Supplementation with formulation* showed significant improvement in the lipid levels and glucose tolerance. In addition, formulation supplementation decreased oxidative stress by improving endogenous antioxidant levels. This study reveals that the formulation improved STZ-induced hyperglycemia, abnormal lipid level and oxidative stress and these effects may be mediated by interacting with multiple targets operating in diabetes mellitus.

INTRODUCTION

Diabetes mellitus is a metabolic disorder in which the body does not produce or properly use insulin. It causes disturbances in carbohydrate, protein and lipid metabolism and complications such as retinopathy, microangiopathy and nephropathy (Rameshkumar *et al.* 2004). During diabetes, a profound alteration in the concentration and composition of lipid occurs. The global figure of people with diabetes set rise from the current estimate of 150-220 million and 300 million in 2025 (Paul Zimmer and Alberti, 2001). Herbal drugs are prescribed widely even when their biologically active compounds are unknown, because of their effectiveness, minimal side effects in clinical experience and relatively low cost (Valiathan, 1998). As it is observed that desire activity is rarely present with adequate potency in a single plant and it may also contain unwanted activities therefore several plants

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