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Abstract

Ethnopharmacological relevance: Cuscuta reflexa Roxb. (Convolvulaceae) is traditionally used to treat diabetes mellitus by tribal people of north-east India and Bangladesh.

Objectives: To evaluate the anti-diabetic effects of methanol and aqueous extracts of the aerial parts of *Cuscuta reflexa* Roxb. in normal, glucose loaded and Streptozotocin (STZ) induced diabetic rats.

Materials and Methods: The methanol (MECR) and aqueous (AECR) extracts (200 and 400 mg/kg body weight) were administered orally to normal and diabetic rats with Metformin and solvent control as comparison groups. Long term effects like FBG, OGTT, lipid profile, HbA1c, body weight, histopathology of major organs, etc. were investigated.

Results: MECR and AECR did not have hypoglycemic effects in normal rats. Both AECR and MECR (400 mg/kg) treatments showed significant reduction in blood glucose during OGTT in diabetic rats at 3 hours. Single oral administration of methanol and aqueous extracts (400 mg/kg) to diabetic rats significantly reduced ($p < 0.05$) blood glucose level to 61.90 % and 55.39 % respectively as compared to the Metformin group i.e. 68.32 % at the end of 8 hours. MECR (400 mg/kg body weight for 30 days to diabetic rats) showed a significant decrease ($p < 0.01$) of blood glucose level to 60.00 % as compared to other groups. The treatment also resulted an improvement in body weights, decreased