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### Isolation and characterization of anti-diabetic compounds from ethanolic extracts of *Dregea volubilis* [Benth.] and *Leptadenia reticulata* [W&A.]

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**Objective:** The objective of the present study was to evaluate the effect of active compounds from *Dregea volubilis* [Benth] (DV) and *Leptadenia reticulata* [W&A] (LR) leaves on serum glucose in normal and diabetic rats.

**Materials and methods:** Diabetes was induced by Streptozotocin (STZ) and High Fat Diet (HFD) in Wistar rats. An isolated fraction of ethanolic extracts of *Dregea volubilis* [Benth] (ETDV) and *Leptadenia reticulata* [W&A] (ETLR) were administered orally at a dose of 100 mg/kg, p.o. Metformin was used as standard anti diabetic drug (50 mg/kg, p.o). An isolated fractions showing for higher anti diabetic activity was subjected to column chromatography that led to isolation of a pure compound, which was given trivial name Dv-1 and Lr-1.

**Results:** The interesting results of our preliminary studies with the ethanolic extracts of *Dregea volubilis* [Benth] (ETDV) and *Leptadenia reticulata* [W&A] (ETLR) have motivated to isolate anti-diabetic active compounds from the leaves of DV and LR for the management hypoglycaemic and hypolipidemic activities. Collected fractions were subjected to anti-diabetic activity in STZ and HFD induced Wistar rats. The fraction F from ETDV and K from ETLR showed strong anti-diabetic activity on a par with the standard drug metformin. To ensure the compounds responsible for anti-diabetic activities associated with F and K respectively, F and K were subjected to GC-MS analysis. In addition a column chromatographic analysis was carried out with F and K using various solvent systems and isolated two compounds named as DV-1 and LR-1 from the column which were amorphous powders with decomposition point. DV-1 and LR-1 were phenolic compound nature (Flavonoids) confirmed by GC -MS and spectral analysis.

**Conclusion:** Reduction in the FBG by Dv-1 and Lr-1 indicates that Dv-1 and Lr-1 has anti diabetic efficacy and provides a scientific rationale for the use as an anti-diabetic agent.

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