Abstract:

To study the anti-diabetic effects of the crude leaves extract and fractions of Thymus schimperi Ronniger in normal and steptozotocin induced diabetic mice. The crude extract and the fractions were screened for antidiabetic activities in streptozotocin induced diabetic mice. A normoglycemic mice model and oral glucose tolerance test were also undertaken to assess the hypoglycemic and antihyperglycemic effect of the crude extract in normoglycemic and glucose loaded mice, respectively. The methanolic crude extract has significantly reduced blood glucose level in streptozotocin induced diabetic mice at all given doses compared to the negative control and the percentage reduction observed was in a dose dependent manner i.e. [250 mg/kg (14.76±6.1%), 500 mg/kg (25.12±11.5%) and 750 mg/kg (27.15±10.0%)]. The crude methanol extract was devoid of hypoglycemic effect in normoglycemic mice but significantly reduced post prandial hyperglycemia starting from 1 h post glucose administration. Among the fractions, higher percentage reduction was recorded in the n-butanol fraction at a dose level of 500 mg/kg (36±7.3%) compared to 250 mg/kg (22.2±4.3%). The aqueous fraction 250 mg/kg and 500 mg/kg also reduced the blood glucose level by 17.6%±6.0% and 18.4±5.0%, respectively. This study revealed that methanol extract as well as butanol and aqueous fractions of T schimperi possess anti-diabetic activity.

Keywords: Thymus Schimperi Ronniger, Diabetes mellitus, Hypoglycemic, Streptozotocin