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Effects of *Thymus vulgaris L.* and *Thymbra spicata L.* on diabetes mellitus associated cognitive impairment and neuropathy: *Thymus vulgaris* and cognitive function improvements

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Aim: Diabetes mellitus (DM) is a metabolic disease due to increased blood glucose, with multiple organ involvement. Although various oral drugs are used to treat DM, they do not prevent the development of DM related diseases such as cognitive disorder, neuropathy and vascular diseases. Thus novel strategies for the prevention and treatment of DM are urgently needed. This research aimed to reveal the effects of *Thymus Vulgaris Lamiaceae* (TVL) and *Thymbra Spicata Lamiaceae* (TSL) on the damaging effects of DM.

Materials & Methods: Therefore, prepared TVL and TSL aqueous extracts were studied in the streptozocin induced experimental diabetic rat model. Blood glucose, body weight, and cognitive functions were examined. Morris water maze test was used to define the effect of TVL and TSL on DM related cognitive dysfunction.

Results: Briefly, impaired blood glucose, and cognitive dysfunction of diabetic rats were significantly improved by TVL in dose dependent manner ($P<0.01$). Impaired blood glucose significantly improved and adjusted to the control group values ($P<0.01$).

Conclusion: Our findings strongly recommend the usage of TVL treatments for DM control by the DM patients.

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