

The Effect of Aqueous Extract of *Dactylorhiza Maculate* Root on the Concentration of Hypothalamic-pituitary-thyroid Axis Hormones in Adult Female Rats

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Thyroid is a very important endocrine gland in living organisms which regulates almost all bodily functions. The aim of the present study is to investigate the effect of aqueous extract of *Dactylorhiza maculate* roots on hypothalamic-pituitary-thyroid axis hormones in adult female rats. Fifty adult female rats were randomly divided into control group, sham group (receiving distilled water) and three experimental groups (receiving aqueous extract of *Dactylorhiza maculate* root at a dose of 20, 40 and 80 mg kg⁻¹) each consisting of 10 rats. Intra-peritoneal injections were carried out for 28 days. The injection volume was 2.0 ml in all groups. On the twenty-ninth day, blood samples were taken from the rats to investigate the serum levels of the HPT axis hormones. Data were analyzed by SPSS (Version 15). Comparisons were carried out employing one-way ANOVA and Duncan's test. The doses of 20 and 40 mg kg⁻¹ of aqueous extract of *Dactylorhiza maculate* root had no significant impact on the serum levels of TRH, TSH, T3 and T4 hormones. However, a dose of 80 mg kg⁻¹ significantly reduced the serum levels of TRH, TSH, T3 and T4 hormones as compared to the control group ($P < 0.05$). According to the results, reduction of hypothalamic-pituitary-thyroid axis hormones by aqueous extract of *Dactylorhiza maculate* is dose-dependent. Thus, *Dactylorhiza maculate* can be used as an alternative to chemical drugs in the treatment of hyperthyroidism.