

# **EFFECTS OF DIABETIC NEUROPATHY ON THE POSTURAL STABILITY IN ADULTS WITH TYPE 2 DIABETES MELLITUS**

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The objective of this study was to evaluate the effect of peripheral neuropathy on the postural control in adults with Type 2 diabetes mellitus (2TDM). Diabetic peripheral neuropathy (DPN) is one of the most common complications which occur in 50-70% of patients with Type 2 diabetes mellitus. The disease usually affects peripheral nerves and can cause a loss of sensation in the feet, leading to impaired of body equilibrium during stance and walking and a risk of falls. A total of 38 adults (mean ages  $53.21 \pm 7.74$ ) with Type 2 diabetes mellitus without insulin dependents (18 with neuropathy and 20 without neuropathy) and 20 age- and sex-matched controls took part in the investigation. DPN group was selected by using standard clinical criteria and Michigan neuropathy screening instrument. The postural stability was evaluated using static posturography under two visual conditions (eyes open and eyes closed) on stable and soft surfaces. Each trial lasted 30 seconds. Both patients' groups found significantly higher postural instability compared to healthy control. The results revealed strong visual dependence for maintenance of equilibrium in patients with 2TDM. While standing on stable support, patients with DPN exhibit significantly higher postural instability than those without DPN in closed eyes condition only, whereas when standing on unstable support, they significantly impair postural stability compared to patients without DPN in both experimental conditions (open and closed eyes). Knowledge of changes in postural stability in 2TDM patients may contribute to the establishment of training programs to prevent the risk of decline falls, especially in the geriatric population.

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