



Exercise Therapy Improves Planter Pressure Distribution in Patients with Diabetic Peripheral Neuropathy

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Abstract : Background: Patients with diabetic peripheral neuropathy are at an increased risk for developing foot ulcerations. The purpose of this study was to evaluate the effect of physiotherapeutic intervention including balance and gait training in addition to the stretching and strengthening exercises on planter pressure distribution in patients with diabetic peripheral neuropathy. **Subjects and methods:** Forty Saudi women with diabetic peripheral neuropathy were divided randomly into two equal groups, Study group: Their mean age (49.40 ± 3.35) years old and BMI (26.53 ± 2.62) kg/m². They were treated with physiotherapeutic interventions including stretching and strengthening exercise, balance and gait training beside their medical treatment. Control group: Their mean age (50.25 ± 3.57) years and BMI (27.16 ± 3.79) kg/m². were treated by their medical treatment only. A capacitance-based pressure platform was used for detecting the pattern of planter pressure and A monofilament to check for sensory disturbance, **Results:** Within group comparison of the mean values of peak planter pressure and contact areas measured under the heel and metatarsal heads revealed that there is a significant difference between the baseline and follow up measurements ($p < 0.05$) compared with control group. **Conclusion:** Physiotherapeutic intervention may prevent the diabetic foot ulceration in patients with diabetic neuropathy supported by significant changes in peak plantar pressure distribution and foot contact area.

Key words: Diabetic peripheral neuropathy-Foot ulcer- Planter pressure- Exercise therapy.