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Abstract:

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Neuropathy-related Unsteadiness and Psychosocial Outcomes in Diabetes: Preliminary Findings

Diabetes is a well-established risk factor for psychological distress and reduced quality of life (QoL). This may be part due to biomechanical challenges posed by diabetic peripheral neuropathy (DPN)-related unsteadiness leading to increased risk of falling and reduced physical activity (PA). This cross-sectional study explores relationships between physical (DPN-unsteadiness and PA) and psychosocial outcomes (depression, fear of falling [FoF], and QoL). The preliminary results of 15 Type 2 DM people with DPN (age: 67yrs; 13M; VPT 24V) indicate that quality of life (NeuroQoL) and depression (Hospital Anxiety and Depression Scale) are strongly associated with objective DPN-unsteadiness (Berg Balance test: r=-.64, p=.01 & r=.63, p=.01; respectively) and FoF (Falls Self-Efficacy Scale: r=.61, p=.02 & r=-.55 p=.03; respectively). Moreover, DPN-unsteadiness (Berg balance score: 47 ±6) and FoF are associated with reduced vigorous exercise PA levels (r=.53, p=.04 and r=-.51, p=.05; respectively), as well as total moderate PA levels (r=-.45, p=.09 and r=.45, p=.09; respectively); measured by General Practice Assessment Questionnaire. Finally, FoF correlates strongly with DPN-unsteadiness (r=-0.79, p<0.001), demonstrating a potential reason why balance impairment may have the negative impact upon PA and QoL. Whilst prospective data are needed to solidify these findings, the preliminary results are robust and support the strong links between the biomechanical impact of DPN and psychosocial outcomes, including depression and fear of falling, and reduced QoL. These data indicate that there is an unmet need for the development of multifaceted interventions that address both psychological distress and biomechanical challenges experienced by patients with this debilitating complication of diabetes.