

A comparative study to evaluate effect of planter tactile stimulation versus pressure foot insoles to improve balance, mobility and reduce fall in diabetic peripheral neuropathy



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Background: Diabetic peripheral neuropathy ulcers on the plantar surface of the foot are typically found in diabetic patients with peripheral neuropathy. Pressure beneath planter surface of foot is increased in diabetic foot result of a combination of morphological sensory abnormalities. Sensory loss plays a vital role in predisposing to the development of these lesions. A new technique that may improve tactile, and possibly proprioceptive, feedback is the application of noise to the plantar surface of the feet. By adding sub threshold electrical or mechanical noise (vibration with a randomly varying frequency) to a sub threshold sensory input, the sensory threshold may be crossed.

Objective of the study: To compare the effectiveness of pressure foot insoles and planter tactile stimulation in improving balance, mobility and reduction of falls in diabetic peripheral neuropathy patients

Methodology: Study conducted on 100 adults with diabetic peripheral neuropathy participants will be randomized to reserve planter tactile stimulation group A (n=50) and vibrathotic insole group B (n=50) to be ware for 12 weeks. The primary outcome measure functional advance balance scale with lower value indicating poor balance secondary outcomes measure functional gait assessment

Results: It is observed Significant difference in FABS & FGA

score among subjects of group A and group B subjects were observed at 1, 4, 8, and 12 weeks. ($P<0.05$) thus in subjects of group A and group B the average difference in FABS & FGA score was not matched from 1 week to 12 weeks and more increase in FABS & FGA score was observed in group B as compared to group A. Also significant increase in FABS & FGA score was observed in both the groups from the day of arrival till 12 weeks. ($P<0.05$)

Conclusion: This study suggests that effectiveness of pressure foot insoles and planter tactile stimulation in improving balance, mobility and reduction of falls in people with Diabetic peripheral neuropathy.

Biography

Shailendra Kumar Mehta is working as a Principal in the Department of Physiotherapy at JRN Rajasthan Vidyapeeth, Udaipur, India. He has founded SHECR and Social Welfare Foundation and trained broad horizon of lymphedema management to 1000 physiotherapists and students. He has presented 32 research papers and published 30 articles. He has authored a book entitled "Management of Lymphedema" and developed a new technique for the management of lymphedema. He has been awarded with 15 prestigious awards. He is Editor In Chief of International Journal of Physiotherapy and Cancer Rehabilitation. His areas of specialization are Cancer Rehabilitation, Lymphedema Management, etc.