

Correlation Between Changes in Mobility and Satisfaction with Wearable Focal Muscle Vibration in Patients with Diabetic Peripheral Neuropathy and Multiple Sclerosis

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Objectives

The purpose of this study is to examine the correlation between patient satisfaction and changes on mobility after 4 weeks of FMV in patients with diabetic peripheral neuropathy (DPN) and MS.

Introduction

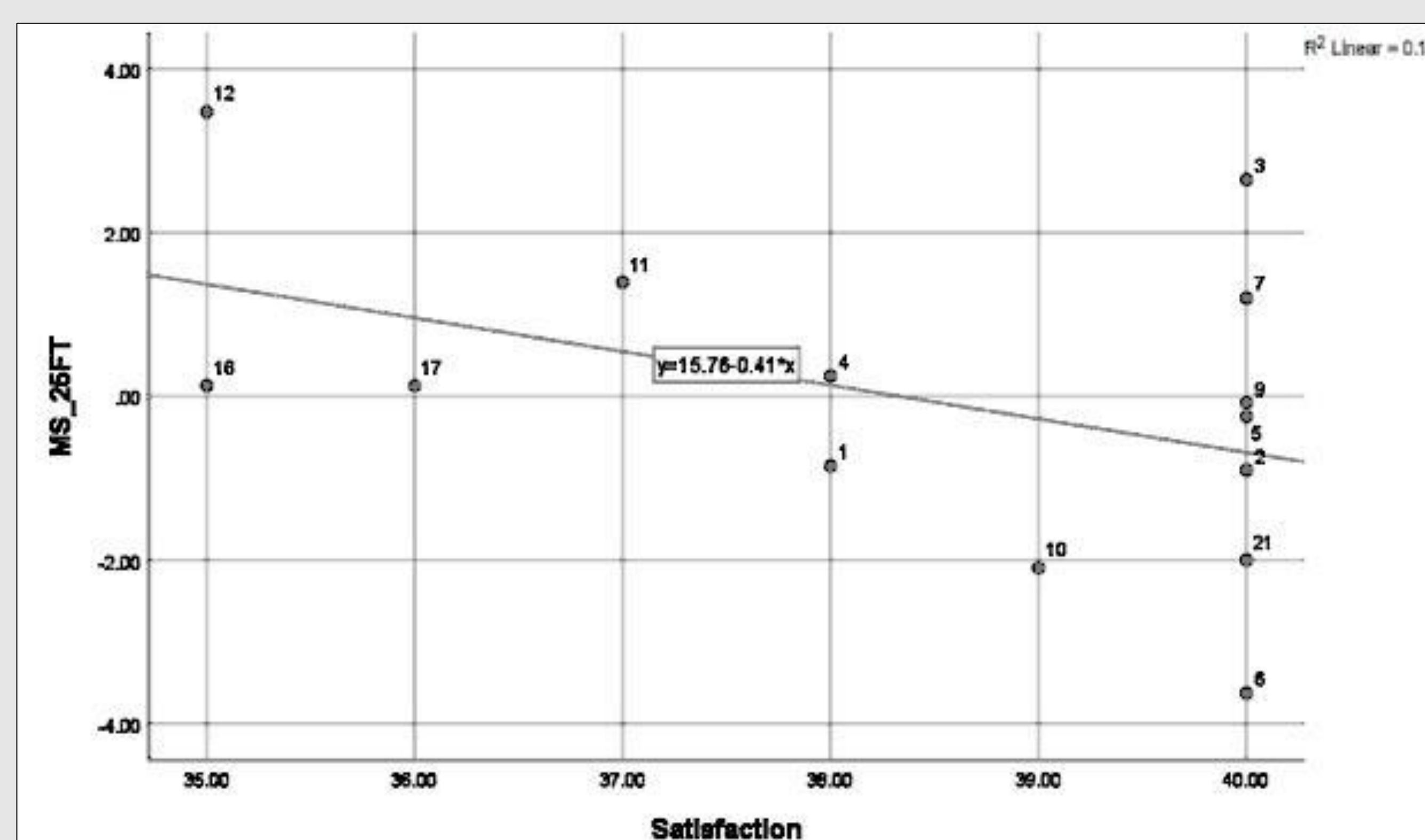
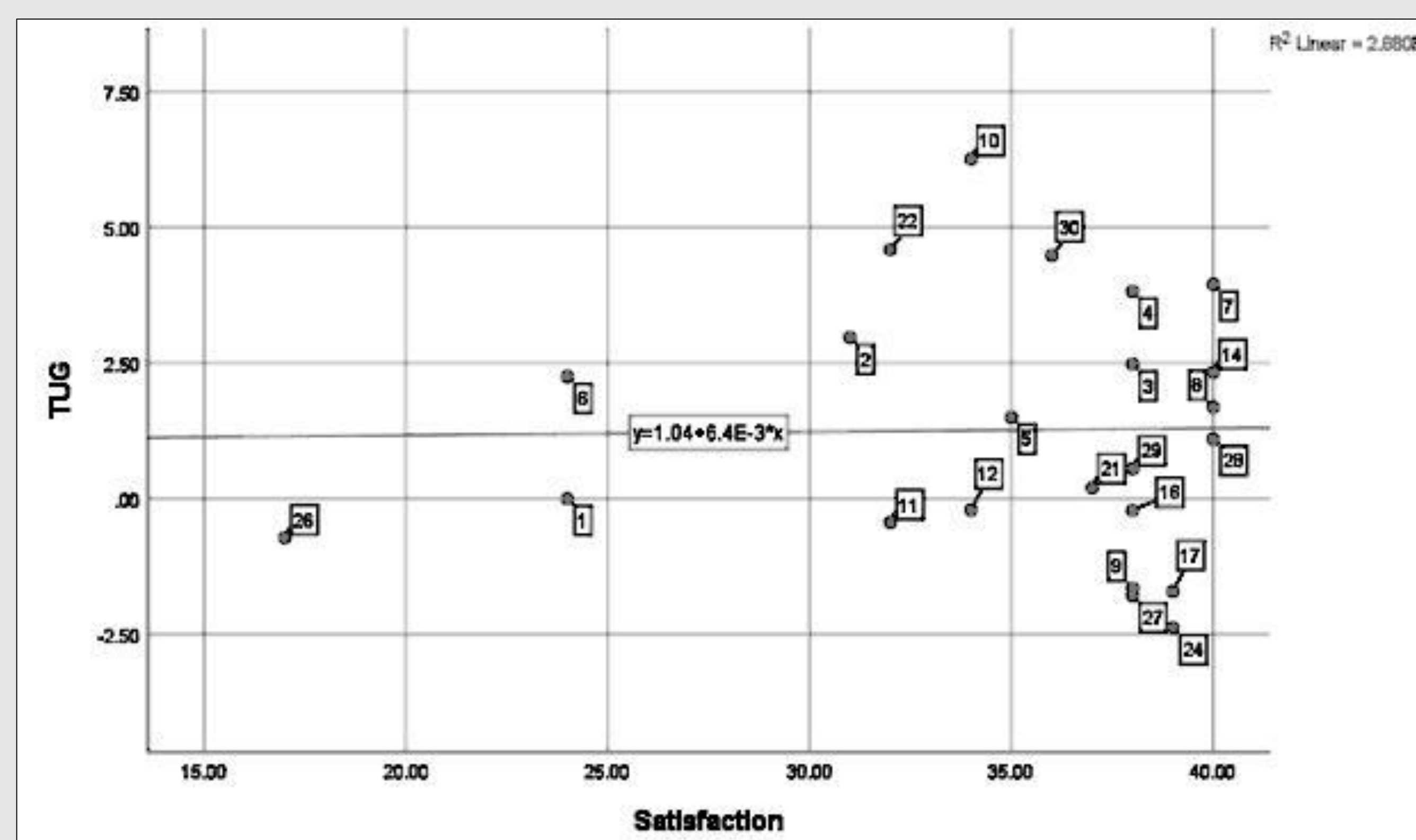
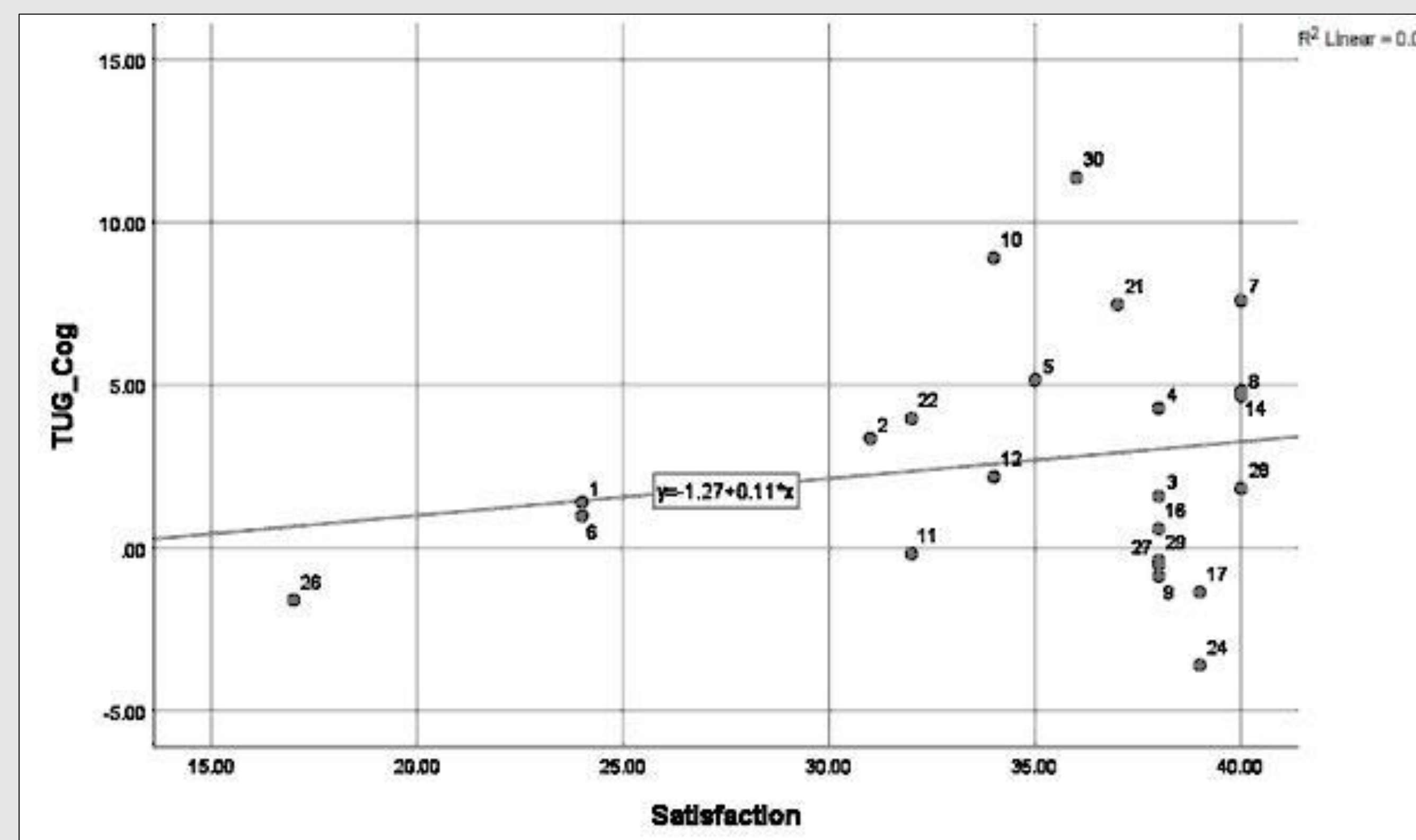
- Diabetic peripheral neuropathy and multiple sclerosis (MS) are neurological disorders that share several symptoms. Both condition can cause stiff, spastic and fatiguing muscles.
- Many approaches have been proposed for the treatment of neurological disorders, yet few that are sustainable and able to be performed at home. There is a lack of standard of care for this disorder.
- Research suggest that the use of focal muscle vibration (FMV) could be a sustainable treatment for patients with neurological disorders.

Methods

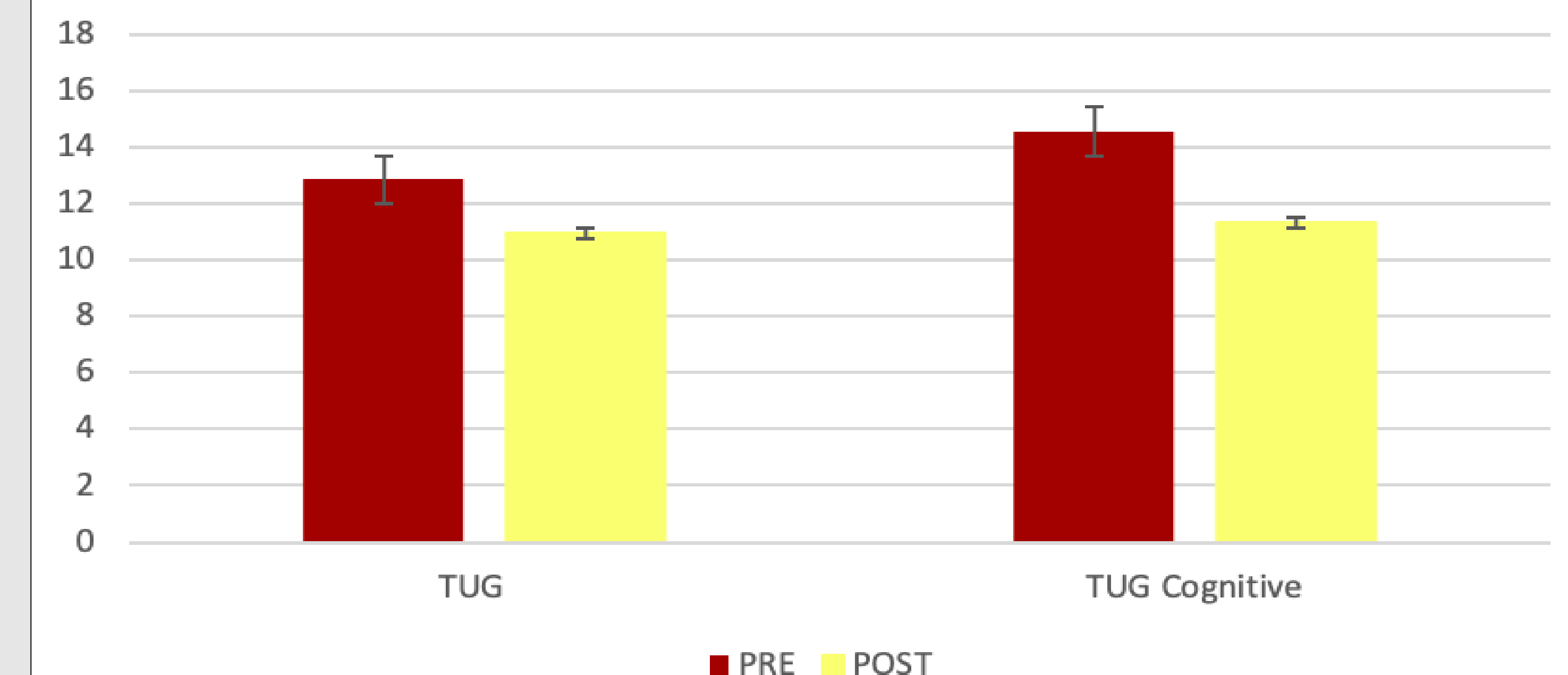
- Data for this study was from two studies that examining the effects of wearable FMV on mobility in patients with DPN and MS respectively.
- For both studies, FMV was applied using the same device over three muscle groups: the rectus femoris, tibialis anterior, and the triceps surae muscle group for 10 minutes each (total 30 minutes for all three muscles) three days a week for 4 weeks.
- Mobility for DPN participants were assessed using the timed-up-and-go (TUG) and TUG Cognitive tests. And the Timed 25 Foot Walk test was used for participants with MS.
- Participants' satisfaction were surveyed in both studies via the assistive technology subscale of the Quebec User Evaluation of Satisfaction with Assistive Technology (QUEST) questionnaire.
- Data were analyzed using descriptive statistics and correlation tests.



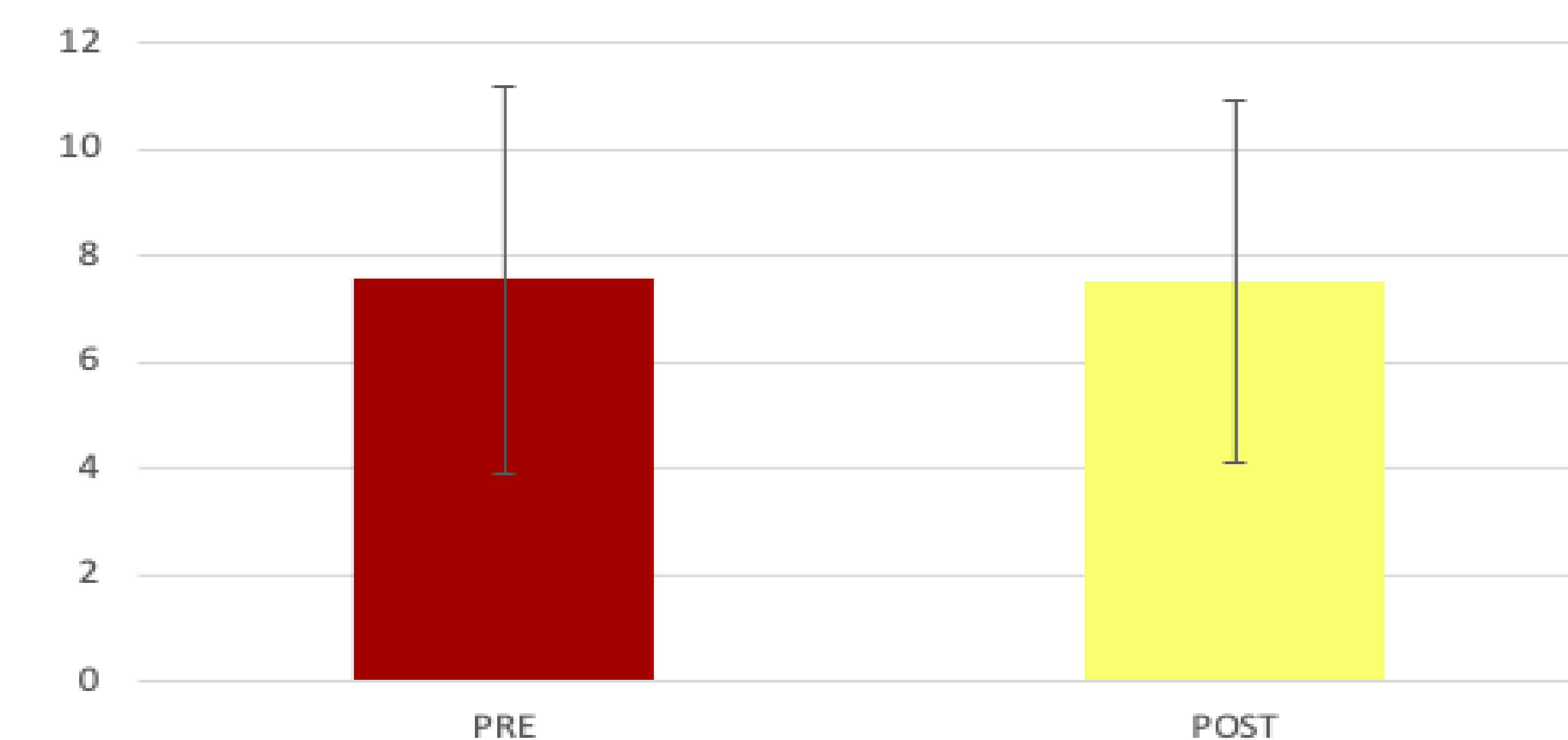
Results



DPN Mobility



MS Mobility



Discussion

- These results could be due to the overall high patient satisfaction with the intervention.
- The QUEST questionnaire evaluates patient's satisfaction with the physical device, not overall satisfaction in quality of life (QOL).
- Future studies to include larger samples, a QOL satisfaction survey and control group will be needed to further examine the relationship between the effect of the intervention and patient satisfaction.

Conclusion

There was no significant correlation between satisfaction and change in mobility in either study.

Acknowledgement

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