

The Effects of Sound Wave Vibration Therapy on Motor Symptoms of Parkinson's Disease

Abstract

Background: Recent studies have suggested that vibration therapy may have a positive influence on motor symptoms in individuals with Parkinson's disease (PD). However, quantitative evidence of these benefits is scarce, and the concept of "whole-body" vibration in these studies is vague.

Objective: The objectives of the current study were to deliver sound waves to the entire body in order to evaluate the effectiveness of vibration therapy on motor symptoms and functional outcome measures in PD using both qualitative and quantitative techniques of assessment.

Method: We delivered whole body sound wave vibration to 40 individuals with PD using the Physioacoustic Chair, a piece of equipment that has speakers spaced throughout the chair permitting a series of programmed low frequency sound waves through the body. Using a parallel cross over design we utilized both qualitative and quantitative measures such as the Unified Parkinson's Disease Rating Scale (UPDRS), walking assessment using GAITRite technology, and a grooved pegboard for bradykinesia.

Results: Improvements were seen in all measures. Specifically, a significant decrease in rigidity, bradykinesia, and tremor were shown, as well as a significant increase in step length.

Conclusions: Results of this investigation provide direction for vibration therapy as a non-pharmacological treatment alternative.

Key Terms: Parkinson's, Physioacoustic, Vibration Therapy, Motor control, gait, rehabilitation

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