

Title: Centralized tinnitus management for TBI patients: Pilot study (Completed)

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Objectives: Tinnitus is a common symptom of traumatic brain injury (TBI) caused by motor vehicle accidents, assaults, falls, gunshot wounds, and blasts. There is growing concern among medical leadership both within US Department of Veterans Affairs (DVA) and US Department of Defense (DoD) that blast-related TBI is a major problem among returning Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) Veterans. At the Palo Alto VA TBI inpatient unit, 38% of patients with blast trauma have reported tinnitus during the OIF/OEF conflicts. As with other forms of tinnitus, tinnitus associated with TBI usually is a life-long condition that can significantly impact quality of life. No program currently exists to provide clinical management for military personnel and Veterans who have tinnitus associated with TBI. The present pilot study developed and evaluated a centralized tinnitus-management program that can be accessible to these individuals from any geographic location.

Research Plan: This pilot study was a three-group non-randomized observational study. All participants experienced bothersome tinnitus that warranted clinical intervention. One group had probable symptomatic mild TBI (mTBI); the second group had moderate to severe TBI (m-sTBI); the third group had no symptomatic TBI (noTBI). The study design specified approximately 10 participants in each group. The purpose was to determine if telehealth intervention was feasible and efficacious for each of the three groups.

Methods: Military and Veterans Affairs (VA) medical centers were contacted to recruit individuals with bothersome tinnitus—both with and without a history of TBI. Interested persons called a toll-free number to inquire about the study. The research assistant conducted initial screening for tinnitus and TBI and mailed materials to eligible candidates. The research coordinator assessed capacity to provide informed consent, obtained informed consent as appropriate, and set up the initial telephone counseling appointments. An audiologist and a psychologist conducted these appointments at (approximately) 5, 6, 7, 8, 12, and 24 weeks. The intervention consisted primarily of efforts to facilitate the therapeutic use of sound and cognitive behavioral therapy techniques to effectively manage reactions to tinnitus. Outcomes assessment was conducted using the Tinnitus Handicap Inventory at baseline and at 12 and 24 weeks following baseline.

Findings to Date: Participants with bothersome tinnitus were recruited into three groups: probable-symptomatic mild TBI (n=15), moderate-severe TBI (n=9), and no symptomatic TBI (n=12). Subjects received telephone counseling (six sessions over 6 months) by an audiologist and a psychologist. Questionnaires were completed at baseline, 12 weeks, and 24 weeks. All groups showed trends reflecting improvement in self-perceived functional limitations due to tinnitus. A follow-up randomized clinical study is underway.