Changes in Scores of Tinnitus Handicap Inventory Over Time

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INTRODUCTION

Tinnitus is the perception of a sound that has no acoustic source outside the perceiver's head (McFadden, 1982; Henry et al., 2002). Because there is no "cure" for tinnitus perception, suitable counseling is the key to relief from the negative reactions to tinnitus. The Tinnitus Handicap Inventory (THI; Newman et al., 1998) measures the impact of an individual's life that are affected by tinnitus. The THI is a 25-item self-assessment questionnaire that requires patients to respond either “yes,” “sometimes,” or “no” to indicate their perception of the influence tinnitus exerts on emotions and daily activities. Results are scored on a 4-2-0 scale, respectively, therefore THI scores can range from 0 to 100. Higher scores indicate greater perceived tinnitus handicap. Although the THI contains three subscales (functional, emotional, and catastrophic), Baguley and Andersson (2003) demonstrated that the subscales lack independence and that for statistical comparisons, the total scores are more reliable. Other studies (Hanscomb et al., 2006) indicated that individual items on the THI can be analyzed to identify those items that are most consistently endorsed among tinnitus patients. New results from 1996 concluded that the THI is a brief, easily administered, and psychometrically robust measure which can evaluate the impact of tinnitus on daily living (lip. 158).

PURPOSE

The purpose of this paper was to identify the changes in self-assessed tinnitus handicap over time in two groups of patients treated in a large tinnitus clinic. The two patient groups consisted of patients who (1) had tinnitus (T-only) and (2) had tinnitus and Post-Traumatic Stress Disorder (T+PTSD). Aspects of tinnitus amenable to treatment were compared across groups. The primary instrument for measuring these changes was the THI.

METHODS

Participants: A total of 282 individuals who had been followed for at least 6 months in a large tinnitus clinic participated in this study. Eighty-seven percent were in the THI and PTSD group (T+PTSD) group and 16% were in the tinnitus-only group (T-only). The mean hearing sensitivity was comparable within and between groups. The patients were followed at the Audiology clinic at the Mountain Home Veteran Affairs Medical Center. The initial assessment included audiometric evaluation, electrophysiologic and vestibular testing when indicated, and several tinnitus intake forms, including the THI. Tinnitus management was conducted in individual sessions that included detailed counseling prioritizing information pertaining to tinnitus mechanisms and disruptions, dialogue regarding the participant's experiences with tinnitus, and most cases (65%) the recommendation of sound enrichment. Concurrent enrollment or treatment in the appropriate VA sections testing when indicated, and several tinnitus intake forms, including the THI. Tinnitus management was conducted in individual sessions that included detailed counseling prioritizing information pertaining to tinnitus mechanisms and disruptions, dialogue regarding the participant's experiences with tinnitus, and most cases (65%) the recommendation of sound enrichment.

RESULTS

Figure 1. Mean representative audiogram (and one standard deviation) for the T-only group.

Figure 2. Mean pre-THI total scores (black bars) and post-THI total scores (gray bars), with on standard deviation, for each group.

Figure 3. The difference in "yes," "sometimes," or "no" responses on individual THI items that were significantly different between pre and post sessions in the THI only group.

To evaluate which THI items contributed most substantially to the differences between groups over time, a paired t-test with Bonferroni corrections was conducted for each item (pre vs post) for each group. The THI items that contributed most to the overall decreases in score in the T-only group were questions regarding escaping tinnitus, frustration, control over tinnitus, and coping with tinnitus (items 8, 10, 19, and 23, respectively). Figure 3 illustrates the change in responses for the four items on the THI that were significantly different between pre and post sessions in the T-only group.

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DISCUSSION

The T+PTSD group had significantly higher pre-THI scores than the T-only group, suggesting that individuals with PTSD perceive themselves as more handicapped by their tinnitus than individuals with tinnitus only. Both groups reported decreased THI scores over time and the post-THI scores were similar between the two groups. Therefore, self-assessed handicap caused by tinnitus was exacerbated less by PTSD at follow-up than at intake. While the intervention was more effective for the T+PTSD group than the T-only group, the greater perceived benefit also might have been due to the greater initial handicap tinnitus handicap reported by PTSD patients. The T+PTSD group response changes were consistent with patient reports that tinnitus and PTSD exacerbated one another and that the severity of PTSD symptoms (i.e., by affecting concentration, sleep, and the sense of coping, etc.) as the two disorders share these attributes. Additional research, however, is needed to determine the benefit of tinnitus treatment on PTSD symptoms.

REFERENCES


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