Reviewer's report

Title: Tinnitus Rehabilitation in Adults: a Retrospective Study

Version: 1  Date: 20 March 2008

Reviewer: Pawel Jastreboff

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Tinnitus Rehabilitation in Adults: a Retrospective Study; Hashir Aazh

This interesting and well written manuscript presents results of use of simplified version of Tinnitus Retraining Therapy (TRT). The author obviously is familiar with TRT, recognizes and presents differences with full method. There are a few points which need clarification.

General:

The main results are pretty strong and clear, however, secondary findings are unclear and weak, perhaps due to small number of subjects in subgroups. I suggest that all data are reanalyzed using proper statistics, i.e., ANOVA with repetitions followed by paired test (for comparisons before-after) and with uncorrelated test for between subgroups comparisons. One figure with scatter diagrams and nonlinear regression will be helpful as well (see specific comments). Note, when providing statistical information always present number of degrees of freedom.

Presented material is very similar to submitted previously manuscript. The main difference is in time of data collection (from Feb 2006 in previous manuscript). One of the groups seems to be obtained using identical methodology as in this manuscript. Was it any particular reason not to include it in present data? If possible it would increase total number by 12 subjects. Visual inspection of means and SD create impression that results are indeed very similar.

Specific:

- Two months are too short time for evaluation due to placebo effect. I would suggest removing subjects who were in treatment for shorter time than 3 months.
- Please provide clear cut-off score for THI for acceptance patients to the analysis.
- From description (pager 6) it is not clear whether one or two wearable sound generators were used
- Provide a figure with three scatter diagrams for relations between decline in THI as a function of age, duration of tinnitus, and duration of the treatment. Calculate nonlinear regression checking whether there is improvement of R2 and provide values of R2 and its significance. Lack of correlation (i.e., linear dependence) does not preclude existence of dependence and can be misleading without visual inspection of the data or advance statistical analysis. As conclusion regarding
- Conclusion regarding usefulness of WSG use is not justified as sample size was too small for any statements. Specifically, it is stated (page 11) that decline of 30% and 74% was observed for patients who did not use WSG decrease and who used them, respectively. However there were only two patients in group who use WSG and obviously, even in spite of large difference in extent of decrease, it was not significant. Providing number of cases in each group and number of degree of freedom are essential. Statements about significance or lack of it cannot be made when smaller group is not at least 6 (preferably 10).

As customary for my reviews I am disclosing my identity to the authors.

With best regards,

Pawel J. Jastreboff, Ph.D., Sc.D., M.B.A.

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests