Reviewer's report

Title: Munster tinnitus randomized controlled clinical trial-2013 based on Tailor-Made Notched Music Treatment (TMNMT)

Version: 2 Date: 9 December 2013

Reviewer: Deborah Hall

Reviewer's report:

The authors describe an RCT protocol to assess the efficacy of tailor made notched music training (TMNMT), compared to an active placebo comparator.

Major Compulsory Revisions

The following describes my recommendations for major compulsory revisions.

1. Will the study test the hypothesis adequately?

The study is carefully designed in terms of most of the facets outlined in the CONSORT checklist. However, there are a number of aspects which I envisage could make the data interpretation problematic. I would therefore recommend the authors to address these in advance at the design phase of the trial protocol.

i) Group allocation. The team propose to stratify for age and hearing loss – further details of how this is to be carried out would be informative – e.g. information about stratification categories of age and HL. Here, it is also worthwhile learning from previous RCTs for tinnitus. The RESET1 trial for example did not stratify according to baseline tinnitus severity and as a result the control group (GPS) had a lower initial severity score, thus leading to bias. I recommend accounting for severity of tinnitus distress.

ii) Primary outcome. CONSORT recommends use of a validated outcome tool when available and so the THQ is a good choice of primary outcome. One primary outcome is sufficient – VAS (loudness, annoyance, awareness, and handicap) would be considered secondary outcomes in my view.

iii) Sample size. CONSORT recommends that the outcome of greatest importance is used to compute sample size, preferably using a priori (published where possible) knowledge about typical sample mean, SD and the known minimal clinically important difference. A study by Henry et al 2006 Acta otolaryngol 126 pp64 can be useful in this respect. At present, the authors’ description of the process by which they computed the power calculation is not sufficient for a reader to fully understand what was done. I would expect a ‘medium’ effect size to be closer to 0.5 than 0.25.

iv) Blinding. For transparency, the authors should explain how they will ensure double blinding throughout the RCT.

v) Missing data. In order to preserve fully the benefit of randomisation, all participants should be included in the analysis (intention-to-treat). The authors should at least report how they will deal with missing outcomes, preferably using
imputation rather than last observation carried forward.

vi) Interim analysis. The authors state that they will carry out 2 interim analyses. Here, the purpose of these interim analyses is unclear. CONSORT describes circumstances where it is appropriate – i.e. to enable a decision making and/or stopping rule. Any statistical guidelines and stopping rules should be in place a priori: Typically these analyses are overseen by an Independent Data Monitoring Committee with group sequential statistical methods to adjust for multiple comparisons and procedures to maintain double blinding. Further clarification is needed.

2. Are sufficient details provided to allow replication?
See points iii), v) and vi).

3. Does the manuscript adhere to the relevant reporting standards?
Some aspects of the trial protocol do not fully report on some of the key steps outlined in the CONSORT guidelines to which the authors intend to use in their final reporting. The protocol would be greatly strengthened if these key aspects were described a priori.

4. Is the writing acceptable? Yes.

Discretionary Revisions
The following describes my recommendations for discretionary revisions:
1. The background is heavily biased towards reporting the authors own work.

2. Reference [8] p4 is used inappropriately for describing the gold standard methodology
E.g. see Landgrebe et al 2012 J. Psychosom res.
Hoare et al 2011 Laryngoscope

3. Dominant tinnitus pitch should be calculated using the geometric mean, not arithmetic mean as freq is measured on a log scale.

4. Secondary efficacy end points should be stated. Are these also 3 months?

5. Para 1 top of P9 is not needed.

6. Discussion makes claims about treatment cost. Does this study design include an economic analysis to support that claim?

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests