Author's response to reviews

Title: Effects of conventional versus multi-modal vestibular rehabilitation on functional capacity and balance control in elderly with chronic dizziness from vestibular disorders: design of a randomized clinical trial

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Author's response to reviews: see over
To the Reviewer: Tony Marson

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Title: Effects of conventional versus multi-modal vestibular rehabilitation on functional capacity and balance control in elderly with chronic dizziness from vestibular disorders: design of a randomized clinical trial.

Thank you for the attention regarding our work. The manuscript was revised according to the reviewer’s recommendations. We marked the manuscript with yellow highlight on the changes requested.

Our replies to the suggested revisions are:

1. **On the whole the protocol is well written but some help with the English is needed in a few places.**
   The manuscript was reviewed by a native English speaker to improve the style of written English. As all the English style of the manuscript was revised there isn’t a mark on the text to this purpose.

2. **It would be helpful to have more information about the power calculation. What size of difference in outcome was used to estimate the sample size and what is the justification of the sample size chosen? One would have concerns that the sample size may be too small to detect important differences between two active treatments.**
   The sample size calculation was rewritten in order to provide more information about power calculation.
   **Power calculation:** The T Test was used to detect clinical difference between means of continuous variants (primary outcomes) with 80% of power, and 5% of significance level.
   **Estimate de sample size and difference in outcome:** The estimated sample size was calculated considering previous DHI and DGI (primary outcomes) results based on a previously published trial. It was estimated that 34 individuals were required for the DGI (effect size= 2,5; SD=3,5), and 32 for the DHI assessments (effect size= 14; SD=20). Where effect size is the mean difference expected between the two groups and SD is Standard Deviation in the population.
We do believe that the sample is not small for a rehabilitation trial (n=68 + 15%). Other recent manuscripts concerning rehabilitation have enrolled, approximately, similar sample sizes. See examples below.


It is also important to highlight that the sample calculation was based on a reliable study (Whitney SL, Wriley DM, Marchetti G, Furman JM: The effect of age on vestibular rehabilitation outcomes. **Laryngoscope** 2002, 112:1785-1790.), and the correct test was used to do so. The effect size (mean difference expected between the two groups) of 2.5 (DGI test) and 14 (DHI test) is not small, considering that both groups will be subjected to active therapy. Besides, DGI total score varies between 0-24, and general population score is nearly 18. And for DHI score varies between 0-100 and general population is nearly 50.

We also confirmed with two statisticians that the sample size calculation methods employed on our research were adequate.

It wasn’t a reviewer request, but reading again the section **Outcome Measures** we included a phrase and some items were relocated in the text and in table 1, just for better understanding (no change in contents). This change was marked with **green highlight** on the manuscript.

We are entirely dedicated to the resolution of other questions or implementation of new modifications.

Sincerely

The authors