Reviewer’s report

Title: Benefits of whole-body vibration to people with COPD: a community-based efficacy trial.

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Reviewer: Rainer Gloeckl

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Furness and colleagues performed a non-randomized, cross-over study. 16 patients with COPD were enrolled in the study in a community-based setting. All patients underwent a six-week whole body vibration (WBV) intervention and after a 2 week wash-out period a six-week placebo WBV (PWBV) intervention. 11 patients finished the 14 week period. After 6-weeks of WBV, assessments of activities of daily living and gait improved significantly while there was no change after the PWBV phase.

Major compulsory revisions:

1) Abstract: authors state that perceived dyspnoea, heart rate and oxygen saturation were defined to be the primary outcomes. There should only be 1 primary outcome. Please provide a rationale on this discrepancy.

2) In the methods section (paragraph Sample size and data analysis) you report that the sample size calculation based on the “ADL dependent variables” – please provide more background information on how exactly you have performed the sample size calculation (on which single parameter and with what expected difference and SD, etc.).

3) You determined a sample size of n=16. Due to 5 drop-outs only 11 patients finished the whole 14 wk period. Although these 5 drop outs happened after the 6wk WBV intervention, the lost of 5 out of 16 patients during the second half of your study period might reduce the validity of your findings (especially in the PWBV phase).

Minor essential revisions

1) Throughout the whole manuscript authors describe WBV as “physical activity”. This might be a confusing term for the reader since “physical activity” is more used for the kind of activity that patients perform voluntary during their daily life. The term “exercise training” might be more appropriate to describe WBV.

2) Please indicate if community-based means the same as home-based?!

3) Did you also perform a follow-up beyond the 14 weeks intervention for exacerbations? Maybe the 14 week period was too short to detect any possible long-term effect exacerbations?

4) Patients included in your study were provided with a WBV device at home – in daily practice it is probably unusual or unrealistic that patients will have such a
device at home. Please include this issue of clinical implementation within the discussion section.

5) Discussion section (paragraph “functional performance of lower limbs”): You state: that “a resistance training intervention in this population requires facilities not usually available in the home”. On the one hand this is not true, since it is possible to perform effective strength training at the patients home just with his body weight or some dumbbells or elastic tubes. On the other hand WBV devices are also usually not available at the patients home (see #4).

6) Discussion section (paragraph “compliance and drop-out”): you conclude that “[…] efficacy of WBV can be confirmed”. This statement seems to be a little bit premature after a study with n=16 subject.

7) You might include the most recent publication on WBV in COPD from Pleguezuelos et al. (Respirology 2013,18:1028-34)

**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