Reviewer’s report

Title: Efficacy of a whole-body vibration intervention to improve exercise tolerance and functional performance of the lower limbs of people with chronic obstructive pulmonary disease

Version: 3 Date: 9 September 2012

Reviewer: Klaus Kenn

Reviewer’s report:

Review BMC study protocol in WBV in COPD

Major compulsory revision

1) Discussion section, last paragraph: you state that you want to prove safety issues of WBVT in individuals with sub-optimal health conditions. Why are you including COPD-patients with GOLD stage II only? These patients might not be the appropriate cohort to prove safety or exacerbation incidence. Including patients with COPD GOLD stages III to IV might be more appropriate for this purpose.

2) Methods section, first paragraph: although it was mentioned that the control phase (second 6 Weeks of Placebo WBV) will mainly be used to receive information on trial compliance, authors should keep in mind that a) a 2 week-period might be to less for “washing out” the exercise effects of WBVT and b) if the second phase is worth the effort conducting it?

3) Participants and recruitment section: please specify your contraindications for WBVT

4) Sample size section: sample size calculation was performed by using the 5 chair stands test but your primary dependent variable as an outcome parameter will be perceived dyspnoea on the Borg CR-10 scale. Is this an appropriate approach?

Minor essential revision

1) There is a contradiction in the abstract (background section): whole-body vibration training (WBVT) is applicable to improve muscular function, but only if provided as high-intensity WBVT – not as a gentle (=low-intensity) WBVT as it is written in this section! Moreover the intensity of 25 Hz at which you are planning to perform your exercise training on a side-alternating vibration platform is also regarded as high-intensity vibration. This is confusing for the reader!

2) Participants and recruitment section: Authors want to include only COPD-patients in GOLD stage II. These patients usually suffer only mild impairments in exercise capacity. Probably the improvements yielded by WBVT might be very low in this particular population. Have you thought about including also patients with severe COPD?
3) Please describe your “community setting“ in more detail.

4) Authors plan to use a peak-to-peak displacement of 2 mm. To the experience of the reviewer this is a quite low amplitude. Greater gains of WBVT might be observed when using an amplitude of 4-6 mm. This also represents a more realistic “real-life” exercise program.

5) Outcome measures section: please provide more information on how you will perform the mentioned exercise tests especially the 5-chair stands test and timed up and go test.

6) Outcome measures section: authors should think about including a 6-minute-walking test or an incremental shuttle walk test, as these two field exercise tests are of common practice in evaluation pulmonary rehabilitation programs (see ATS/ERS guidelines)

**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