Reviewer's report

Title: Mobile-phone-based Home Exercise Training Program Decreases Systemic Inflammation in COPD

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Reviewer: XAVIER SOLER

Reviewer's report:

Comments to the authors;

The study of the ‘Mobile-phone based home exercise training program decreases systemic inflammation in COPD’ is relevant. Exercise training, and methods to improve patient compliance as well as test their clinical effects is therefore important.

Home-based training programs have been successfully implemented in other areas of medicine as well as in COPD. However, the systemic effects of such interventions have been not evaluated or published to date.

On this particular work, the authors study 30 moderate-severe COPD patients with phone-based exercise training and the systemic effects on CRP, IL-8, IL-6 and TNF-alpha.

Some concerns that should be addressed are:

1. COPD definition should be from original source. GOLD guidelines (updated) can be a good option. The reference is not appropriate for this definition.

2. Use just published ATS-ERS statement on pulmonary rehabilitation. You may ad the current one but it is outdated.

3. Why patients on oxygen were excluded? Please clarify. Many (~50%) of subjects referred to pulmonary rehab are on oxygen and are the ones at major risk for exacerbations or dropping the program because associated co-morbidities.

4. Same with ‘severe systemic conditions’. Which ones? Many of them have substantial associated co-morbidities.

5. A baseline assessment with cardio-pulmonary exercise test (CPET) and directly measuring VO2 consumption will increase the accuracy of the measurements as the authors were correlating with ‘true’ inflammatory cytokines and therefore using estimates (formulas) may bias the results.

6. A more clear background on IL-6, IL-8, TNF-alpha and CRP seems warranted. In the background section, only CRP and IL-6 are developed. The authors explored the other inflammatory biomarkers too but not found the background and relationship with COPD. Agusti A have some work on this.

7. The results show that TNF-alpha and IL-6 were increased in the control group.
In the discussion, should be explained the different directions of biomarkers. Ones going up, the others going down. Why is the hypothesis behind?

8. The discussion can be little more focused on the findings.

9. The second paragraph in page 15th: ‘the present study indicates…’ is confusing. ‘The findings indicate’ that ‘hospital based training’ helps? I don’t think it was evaluated here.

10. I think a major limitation comes from the measured biomarker itself. Meaning that we don’t know much about those inflammatory cytokines and the relationship over time in patients with COPD. There are many co-founders that may interfer the results. For instance, many patients with COPD have OSA and therefore, the results may get affected.

11. How the allocation of subjects was performed between groups?

12. Minor grammar edits needed.

13. Some bibliography can be updated. Mostly from pulmonary rehabilitation citations.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests