Reviewer’s report

Title: EFFECTIVENESS OF PULMONARY REHABILITATION IN PATIENTS WITH INTERSTITIAL LUNG DISEASE OF DIFFERENT ETIOLOGY: A MULTICENTER PROSPECTIVE STUDY

Version: 0 Date: 07 May 2017

Reviewer: Heleen Demeyer

Reviewer’s report:

Based on 41 patients enrolled in a PR program, in 2 centers, the authors confirm the effectiveness of a PR program in ILD patients. The authors did not find a difference in effectiveness of the program between IPF (n=26) and non-IPF patients. Exercise capacity at baseline was negatively correlated with the gains in 6MWT and SGRQ.

I read with interest this manuscript, confirming the short-term effectiveness of a PR program in ILD patients. The authors did not provide a sample size calculation. The sample size seems small to make firm conclusions about the effectiveness of PR depending on the ILD etiology. In addition, the authors describe that patients followed either an in- or an outpatient PR program. It is not clear whether this difference is linked with the center of inclusion or whether both centers included patients in an in-and outpatient PR program. The authors do not compare patients (1) in the 2 centers and (2) the in-and outpatient program. This information is important, both for baseline characteristics and effectiveness of the PR program, to exclude these (center and program) as a possible confounder of the results.

Major comments

-A limitation of the present study is the lack of a control group. Because the results show that a low baseline is related to a greater improvement, this could be interpreted as a regression to the mean effect. The lack of a control group should be included as a limitation in the manuscript.

-30 patients were inpatient, 11 patients followed an outpatient rehabilitation program. Did the duration of the program and effectiveness differ between the in and out patient program? I have the same question concerning the center of inclusion. These 2 variables should be tested as confounders of the associations. Please provide data comparing the in - and outpatient rehabilitation program (baseline characteristics (including % of IPF patients) and intervention effects).

-Did the authors perform a sample size calculation? The study is based on a rather small sample, with several different ILD etiologies and 2 different PR programs (in and outpatient). Therefore, the sample size could be a limitation.
- The authors have chosen the change in 6MWD following PR as an indicator of improvement in functional capacity. Are the results similar when using endurance time, perhaps a more sensitive outcome after PR?

- Why did the authors use in the analyses the % change of baseline and not the absolute change in exercise capacity and health status?

- Please include the % of patients achieving the MID in 6MWD and SGRQ. Does this differ between IPF/non IPF? Baseline characteristics?

- It would be interesting to include tertiles of baseline characteristics and report the absolute change in 6MWD / SGRQ / endurance time per tertile. This would be interesting to add to the correlations.

Minor comments

- The duration and frequency of the PR program is missing. The authors indicate that the PR program had at least 24 sessions. Please include duration, frequency and range (min-max) of attended sessions.

- Was dyspnea measured every minute during the endurance test? This information is lacking in the methods. In the introduction the authors describe that a reduction in dyspnea would be a main aim of PR. It would be interesting to give more details about iso-time dyspnea in the results (comparison IPF - non-IPF, relation with baseline characteristics).

- When comparing IPF and non IPF, nevertheless described in the statistical analyses as a ttest, this seems analyzed using a correlation.

- Was the effectiveness different in patients receiving oxygen therapy?

- Were the correlations different in IPF and non-IPF patients? It would be interesting to indicate in the plots the IPF and non-IPF patients.

- Please include in the description of the statistics that the results will be described as mean and SD

- Please be consistent in reporting data (SD missing / SD between brackets / ±SD)

- P6 line 21, please include the unit of FVC

- In the discussion the authors describe that the better LF parameters and exercise capacity at baseline could explain the greater improvements as compared to a previously published meta-analysis. The results of the present paper show that LF at baseline is not a predictor of success. Isn't this contradictory to your results?
-Discussion: what do the authors mean with "a measurable exercise capacity even at peak intensity"?

-Discussion: what do the authors mean with "a permissive level of lung function" and "peculiar baseline features"?

-Tables and figures: please provide more information in the captions.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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