Outdoor walking training in severe COPD, a feasibility randomized controlled trial.

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Background
- Walking is one of the most important activities of daily living in patients with COPD\textsuperscript{1}.
- Most endurance training programs use cycle ergometer (CET)\textsuperscript{1}.
- The feasibility of an interval outdoor walking training (OWT) in an inpatient rehabilitation setting is unknown.

Aim
- To evaluate the feasibility of the study design and an interval OWT.
- To estimate the effect of OWT compared with CET on health-related quality of life, physical capacity, physical activity after three weeks treatment and exacerbation rate at three months follow-up.

Methods
- Feasibility randomized controlled trial with three months follow-up at the rehabilitation center Walenstadtberg.
- Patients with COPD GOLD stage III-IV\textsuperscript{2}.
- OWT: 4x/week + 2x/week CET, 30 min.
- CET: 6x/week, 30 min.

Results
- 16 patients were included, recruitment rate was 33% (16/48).
- Feasibility was good. BORG scale was preferred.
- Patients completed 75% of scheduled trainings.
- Patient satisfaction with OWT was high.
- Exacerbations: 0 in OWT and 3 in CET during follow-up.
- OWT compared with CET significantly improved health-related quality of life in inpatient rehabilitation after three weeks (p=0.042, 95%CI 1.06-49.94, effect size (d)=1.19, Table 1, Figure 2).
- There was no significant difference in the other outcomes.

Conclusion
- Study design and OWT are feasible.
- OWT improves health-related quality of life and reduces exacerbations.
- A RCT with a total of 46 patients and 3 months’ follow-up is needed.

References

Table 1: Health-related quality of life (CRQ) after three weeks rehabilitation

<table>
<thead>
<tr>
<th>CRQ (total score)</th>
<th>Baseline (mean (SD))</th>
<th>3 weeks (mean (SD))</th>
<th>Difference at 3 weeks (p-value, 95%CI)</th>
<th>Effect Size (d)</th>
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<tbody>
<tr>
<td>OWT</td>
<td>75.50 (27.96)</td>
<td>114.44 (7.77)</td>
<td>0.042 (1.06 - 49.94)</td>
<td>1.19</td>
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<tr>
<td>CET</td>
<td>84.25 (10.17)</td>
<td>97.71 (17.76)</td>
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CRQ Chronic Respiratory Questionnaire, 6MWT 6 Minute Walk Test, m meters
*Difference of the improvement between the groups

Figure 2: Quality of life over three months: at baseline, after three weeks and three months follow-up.

Patient using heart-rate watch to monitor training intensity

Borg scale was easier to use to monitor training intensity

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