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Can we change the activity behaviour of COPD patients using a telemedicine feedback intervention?
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Background: Better insight in activity behaviour of COPD patients is needed to enable a tailoring of treatment. Our objective was 1) to measure the daily activity pattern of COPD patients and 2) to investigate whether this pattern can be altered by a telemedicine intervention in which feedback is provided on the activity level during the day.

Methods: Thirty-seven COPD patients (66.3 yrs; FEV₁; %: 46.5%) and 21 healthy controls (55.4 yrs) were monitored for four days in their own environment to establish a baseline activity pattern, using accelerometry, in counts per minute (cpm). Of these, 9 patients participated in the feedback intervention. Patients had to deploy the same activity pattern as displayed on a PDA, for three weeks. Patients received text messages every hour with advice about their activity.

Results: COPD patients (n=37) are less active than controls (1189±320 vs 829±219 cpm, p=0.003). The COPD activity pattern shows a clear dip in the afternoon. In the intervention group (n=9), activity levels slightly increase during the feedback period (baseline: 870±175, week 1: 898±207, week 2: 883±229, week 3: 922±213 cpm). The dip in activity pattern is strongly modified (figure 1).

Conclusions: COPD patients show lower activity levels compared to controls and a less distributed pattern. First experiences with a telemedicine feedback intervention show that activity levels can be increased and the pattern can be changed.