

Effectiveness of the “Living well with COPD” intervention on coping, smoking behavior and exacerbations in patients from Swiss Primary care: A non-randomized controlled study

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Background

Pivotal objectives of self-management programmes are behavior change, coping and better health related quality of life (HRQL). We compared the effects of the “Living well with COPD” (LWWCOPD) self-management program and usual care on coping, HRQL, smoking cessation rates and exacerbation frequency at 24 months in COPD patients from primary care.

Method

Prospective non-randomized controlled study with COPD patients who participated in the “LWWCOPD” program adapted to primary care in Switzerland. COPD patients from the primary care-based COPD Cohort ICE COLD ERIC (<http://www.ClinicalTrials.gov> with the identifier: NCT00706602) served as control. The primary outcome was coping measured by the mastery domain of the Chronic Respiratory Questionnaire (CRQ). We performed multivariate regression analyses where we accounted for the lack of randomization with propensity scores.

Results

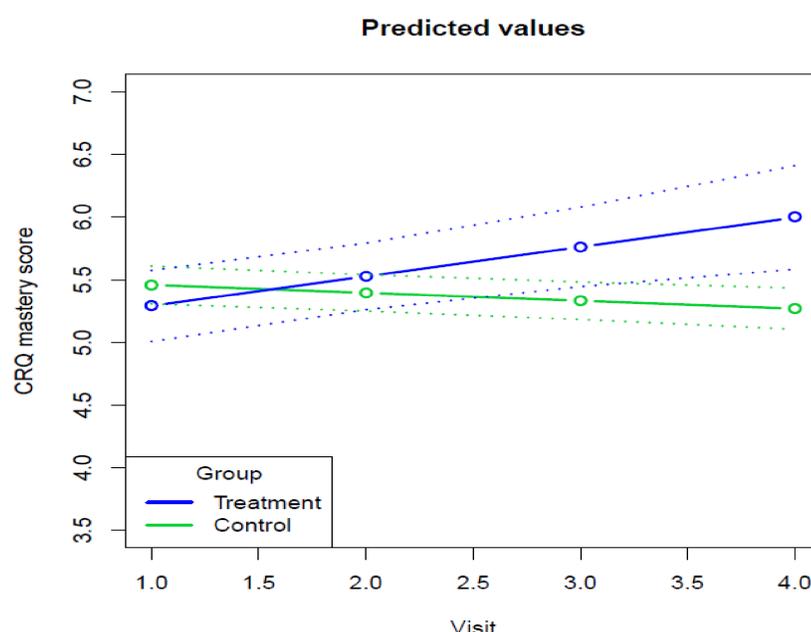
71 patients were in the self-management and 385 in the usual care cohort. Patients with the self-management program had significantly higher mastery scores (0.71 (95% CI 0.28-1.13)) exceeding the minimal important difference of the CRQ of 0.5. Patients with the self-management program showed significantly less moderate to severe exacerbations (incidence rate ratio 0.68, 95% CI 0.48-0.97) and significantly more patients quit smoking at 24 months (odds ratio 0.26 (95% CI 0.07-0.95)). There was an effect on fatigue (0.75, 95% CI 0.28-1.22) whereas the effect just did not reach statistical significance for dyspnea (0.50, 95% CI -0.03-1.03) and emotional function (0.40, 95% CI -0.03-0.82, all CRQ).

As determinant of the behavior change we assessed self-efficacy in the intervention group, for targeted COPD behavior linked to the intervention and our results showed that the confidence in early recognition of a deterioration increased significantly from baseline median 7 (IQR 5-8) to 10 (IQR 10-10) after 2 years, $p < 0.0001$. Also the confidence in correct and timely use of the action plan showed statistically significant increase over the first six months ($p < 0.03$ for timely use and $p < 0.01$ for correct use), however declined again thereafter.

Conclusion

The LWWCOPD intervention in COPD patients in a primary care setting showed long-term benefits on coping, exacerbation rates and smoking cessation behavior.

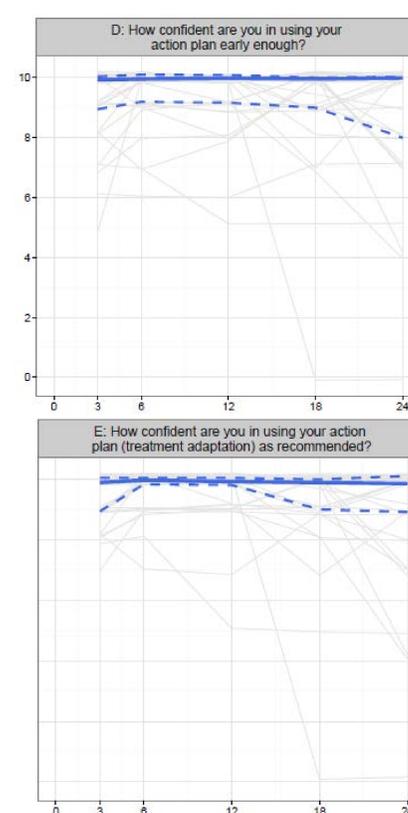
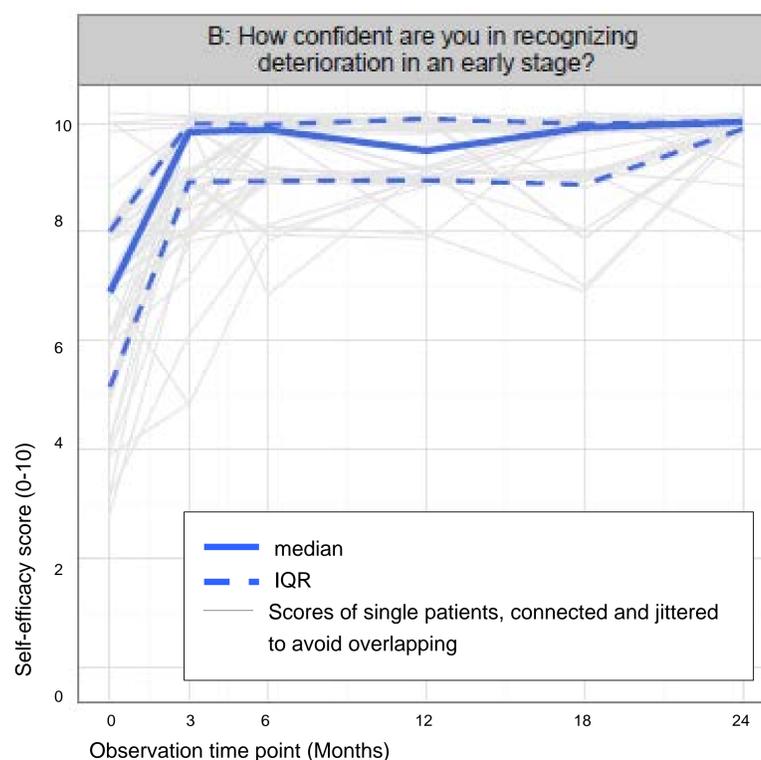
Effects on Mastery (coping)



Between-group difference at two years **0.71** (95% CI 0.28-1.13)

Note: Minimal (clinically) important difference of CRQ: 0.5 point in scale from 1-7

Behavior change assessed with self-efficacy



Effects on exacerbations and smoking cessation

Significantly less moderate to severe exacerbations over the course of two years

Incidence rate ratio 0.68 (95% CI 0.48-0.97)

Smoking cessation at 12 months OR 0.08 (95% CI 0.02-0.37, $p=0.002$)

Smoking cessation at 24 months OR 0.26 (95% CI 0.07-0.95, $p=0.04$)

