Effectiveness of pharmaceutical care for patients with COPD (PHARMACOP): A randomized controlled trial

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Context

There is little evidence from well-designed randomized controlled trials (RCT) regarding the impact of community pharmacist interventions for the pharmacotherapeutic monitoring of patients with Chronic Obstructive Pulmonary Disease (COPD)

Objective

To assess the effectiveness of a pharmaceutical care program for patients with COPD.

Design, Setting & Patients

The PHARMACOP trial is a 3-month RCT, conducted at 170 community pharmacies in Belgium. From December 2010 to April 2011, we enrolled 734 patients with COPD, aged 50 years or older with a smoking history of at least 10 pack-years. Patients were randomly assigned to receive usual pharmacist care (n=363) or a protocol-defined pharmacist intervention (n=371).

Intervention

Control arm patients received usual care. Intervention arm patients received a protocol defined pharmacist intervention, mainly focusing on inhaler technique and adherence to maintenance therapy, at start of the trial and at the one month follow-up visit.

Main outcome measures

Primary outcomes were inhalation technique and medication adherence. Secondary outcomes were exacerbations, COPD specific and generic health status and smoking.

Results

At baseline, the mean percentages of inhalation score and medication adherence were 67% and 83%, respectively. At the end of the study, both inhalation technique scores (Δ,13.5%; 95%CI, 10.8-16.1; P<.0001) and medication adherence scores (Δ, 8.51%; 95%CI, 4.63-12.4; P<.0001) were significantly improved in the intervention group, compared to a usual care control group. The rate of hospitalizations was reduced by 72% (RR, .28; 95%CI, .12-.64; P=.003) and the rate of hospitalization days by 73% (RR, 0.27; 95%CI, .21-.35; P<.0001). No beneficial effects of the intervention were seen in COPD-specific health status (P=0.83) and generic health status (P=0.19).

Conclusion

Pragmatic pharmacy-based care programs can improve both inhalation technique and medication adherence in patients with COPD, as well as reduce severe exacerbations rates. Health statuses were not affected by the intervention. (ClinicalTrials.gov number NCT01260389).