Telehealthcare for Chronic Obstructive Pulmonary Disease in Switzerland Is Feasible and Appreciated by Patients

Frank Rassouli, Maurus Pfister, Sandra Widmer, Florent Baty, Barbara Burger & Martin Brutsche

BACKGROUND
Earlier detection of acute exacerbations (AE) of chronic obstructive pulmonary disease (COPD) could reduce emergency admissions and hospitalisations. Studies investigating COPD management programs supported by telehealthcare (THC) have shown conflicting results.

OBJECTIVES
To test the feasibility, safety and acceptance of THC for COPD.

METHODS
Patients daily filled out an online questionnaire focused on the detection of AECOPD. The THC platform is integrated in a comprehensive electronic patient data repository, which has to be available for all patients in Switzerland by law by 2017. The study team called the patient by phone in case of suspected AECOPD.

RESULTS
Of 339 screened patients, 14% were included. Main reasons for exclusion were missing technical equipment and unwillingness to participate in a study (50%). Data completeness was 88%; 94% completed the study. The current THC approach triggered 230 telephone calls, which led to the verification of 60 AECOPD in 22 patients. Three AECOPD were not detected. Sensitivity, specificity, positive and negative predictive value of the questionnaire-based THC approach in detecting AECOPD was 95, 98, 26 and 99.9%, respectively. Overall patient satisfaction in respect to their health condition improved significantly (VAS 8-8.7; p = 0.002).

CONCLUSIONS
Adding THC to state-of-the-art COPD management is feasible in a selected subgroup of patients. We estimate that up to 50% of COPD patients could be eligible for a THC strategy. Patient compliance, acceptance and satisfaction were very high. With the proposed approach, we missed only very few AECOPD events. However, a telephone-based verification of THC alerts was required.
Overall, in this proof-of-concept study, we experienced a positive effort-to-benefit ratio.

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