Re-organising care of elderly, multi-morbid COPD and heart failure patients with low digital literacy – a 4 year Swedish telehealth intervention study

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Background: Traditionally, when a patient treated for a severe exacerbation of chronic obstructive pulmonary disease (COPD) or heart failure (HF) at a Swedish hospital, the patient is afterwards discharged to primary care. The risk of hospital readmissions due to new exacerbations is high. In order to break the vicious cycle of exacerbation, hospital admission, re-exacerbation and re-hospitalization we therefore re-organised the care by letting a specialised home care clinic, supported by a telehealth system, be responsible for the care of these patients. This ongoing study will evaluate if the re-organisation and system can contribute to earlier detection of patients’ deterioration, prevention of acute hospital admission, costs and differences between COPD and HF patients.

Methods: A 4 year (2013-2017) intervention, non-randomized, single-centre clinical study, compared with expected outcomes, was set up. Elderly, multi-morbid patients with COPD or HF exacerbations are admitted to specialised home care and tele-monitored by a multi-professional team. Patients included in the study have had at least two hospital admissions during the year preceding inclusion. The patients report daily to the clinic on performed physiological measurements (e.g. saturation, weight, blood pressure), symptom assessments (breathlessness, cough, phlegm) and intake of p.r.n. medication.

Meeting the patients’ low digital literacy, we developed the telehealth system based on digital pen technology. This way the patients do not have to learn how to use a tablet/smartphone or computer; they only have to be able to write with the digital ink pen.

Preliminary results: As of June 2016, 80 elderly, multi-morbid COPD and HF patients have been enrolled (29 COPD and 51 HF patients) of which 28 patients (11 COPD and 17 HF patients) have completed their 1-year study period. 21 patients (9 COPD and 12 HF patients) have died. Exacerbations were 2.6 and 0.8 and patient contacts were 85 and 55 per COPD and HF patient, respectively. While HF patients were significantly older than COPD patients, the two groups demonstrated no difference regarding gender distribution.