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Evaluation of a chronic obstructive pulmonary disease (COPD) telehealth programme to reduce healthcare utilisation in a Singapore tertiary healthcare institute

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Aims

Chronic obstructive pulmonary lung disease (COPD) is a leading cause of recurrent hospitalisations. A telehealth programme to support COPD patients post discharge from the acute hospital was established in 2011. This study aims to evaluate the effects of telehealth on healthcare utilisation and time to first hospital readmission in the 6 months post discharge.

Methods

This is a non-randomised control study. COPD patients were recruited between November 2012 and 2013 .Patients who enrolled into the programme were the intervention group. Patients who rejected formed the control group. The intervention involved four telephone calls made within 6 months by a telecarer. Patients were educated on COPD, smoking cessation, nutrition and had a review of CAT score.

Rates of hospital admissions, emergency department visits, specialist and polyclinic visits were extracted by the study staff from patient electronic medical records. Descriptive analysis and Mann–Whitney U tests were performed. Kaplan–Meier survival analysis was used to determine time to first event.

Results

The study recruited 261 patients. Mean age was 73.1±9.9 years (Intervention: 138, Control: 65, Excluded: 58). There were more frequent admissions in the intervention group then control group (Intervention: 24.6%, Control: 18.5%, p-value: 0.3). Patients in the intervention group also had more comorbidities. The mean total healthcare resource utilisation (COPD-related hospital admission, A&E, SOC and polyclinic visits) was 1.1±1.9 in the intervention group and 0.5±1.0 in the control group (p-value 0.7). Although there were reductions in all-cause, COPD-related hospital admissions and A&E visits over time within the intervention group, these were not significantly more than the control group. Telehealth did not extend mean time (days) to first event (Intervention: 133.1 days (95% CI 122.4–143.8), Control: 143 days (95% CI 128.5–157.6), (p-value 0.3). The results could have been influenced by selection bias of the control group that consisted of patients who rejected the programme.

Conclusions

The study is the first report of a telehealth COPD program in South-East Asia. A single intervention of telephone education and support did not reduce short-term healthcare utilisation or extend time to first event. Longer observation period and inclusion of other interventions such as medication adjustments in the programme may be considered to evaluate the effects of telehealth on COPD-related healthcare utilisation. ■

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