Guidelineled prescribing among heart failure patients in the long-term care setting.

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Abstract
Introduction: Heart failure (HF) may affect up to 45% of elderly residents in long term care (LTC) facilities. However, there are few data available describing such HF patients and the use of guideline-led therapy in the LTC setting.

Purpose: This study aims to describe HF care in LTC settings in terms of guideline-led prescribing using a validated tool.

Methods: This is an observational study of elderly patients in 14 LTC facilities in the Cork region of Ireland. Heart failure was documented on patient medical records or identified by prescription of a loop diuretic. Guideline-led prescribing was assessed using the Guideline Adherence Index (GAI) tool. The GAI considers prescription of loop diuretic, ACE-inhibitor/angiotensin receptor blocker (ACEI/ARB) and beta-blocker and it is adjusted to consider contraindications to therapy. High GAI was defined as prescription of ≥2 of these agents. Comparisons between patients were conducted using independent sample t-tests for continuous variables and chi-squared tests for categorical variables. A multivariable logistic regression model, adjusted for age and sex, was used to determine the associates of High GAI and the adjusted odds ratio (OR) and 95% confidence interval (CI) were determined.

Results: The total number of residents was 732 (average age 83.9±7.7; 30% male). The prevalence of HF was 36.2%. Patients with HF were older than those without HF (84.8±7.4 vs. 83.4±7.9 years, p=0.024), were more likely to have coronary artery disease, CAD (32.5% vs. 16.1%, p<0.001), atrial fibrillation, AF (31.3% vs. 16.9%, p<0.001) and lung disease (23.0% vs. 11.1%, p<0.001) but were less likely to have dementia (42.3% vs. 49.9%, p=0.047). Patients with HF were prescribed more medicines than those without HF (12.7±3.5 vs. 10.7±3.7, p<0.001). There was no significant difference in the rate of hypertension, stroke, diabetes or renal failure between those with HF and those without HF. Loop diuretics were prescribed to 87.5% of HF patients, ACEI/ARBs to 24.2% and beta blockers to 22.6% while 17% of patients were prescribed all three of these medications. A loop diuretic was prescribed as monotherapy to 40% of HF patients while 5% of patients were not prescribed any HF medications. Average GAI was 56%. High GAI was achieved by 55% of patients. Patients with High GAI had greater number of comorbidities and greater number of prescribed medicines than those with did not achieve High GAI (both p<0.05). In multivariate analysis, High GAI was associated with higher number of medications (OR=2.30, 95%CI 1.28–4.11), AF (OR=1.79, 95% CI 1.01–3.19) and CAD (OR=2.30, 95%CI 1.28–4.11). Dementia was not associated with High GAI.

Conclusion: In Irish LTC settings, utilisation of loop diuretic was high however there was a low utilisation rate of disease modifying therapies. Presence of CAD and AF was associated with High GAI. However, there was no association between dementia and achievement of High GAI.

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