Impact of pharmacist-led transitions of care service on reducing readmissions among heart failure patients

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Purpose: Acute heart failure (HF) admissions continue to strain the United States' healthcare system and impact patients' quality of life, despite advances in guideline directed medical therapy (GDMT). Evidence-based guidelines encourage a multidisciplinary approach when managing patients' transitions of care (TOC) in order to reduce hospital readmissions. Pharmacist-driven TOC services have been shown to decrease readmission rates, but this has been mostly described in the outpatient setting. Due to the limited research describing pharmacists' involvement with TOC during hospital admission and the immediate post-discharge period, the purpose of this study was to analyze the effect of an inpatient pharmacist-driven TOC program on 30-day readmissions among HF patients.

Methods: This study has been approved by the Institutional Review Board. A retrospective, observational, pre-post study was conducted between January 19th, 2019 and December 31st, 2021 to review the impact of a pharmacist-driven TOC program that was implemented in January 2021. A chart review was performed to collect data on all patients 18 years of age and older with a diagnosis of HF during this time frame. The control group included all patients who met the inclusion criteria prior to implementation of the TOC program. The treatment group included all patients after January 2021 who received TOC services including admission medication reconciliation, medication optimization, discharge medication reconciliation, medication counseling, and/or 72-hour follow-up phone call. Patients were excluded if they were transferred to another hospital, left the hospital against medical advice, expired during index hospital admission, or followed hospice protocol. The primary outcome of this study was all-cause 30-day readmission rates after index hospitalization. Secondary outcomes included HF-related 30-day readmission rates and 30-day emergency department (ED) readmission rates.

Results: 448 patients were screened for enrollment, with a total of 370 patients included in the study (222 patients in the control group and 148 patients in the treatment group). The two groups were well-matched with no significant difference in the baseline characteristics. The all-cause 30-day hospital readmission rate was 13.1% in the control group versus 12.2% in the treatment group (p=0.799). The HF-related 30-day hospital readmission was 3.6% in the control group versus 4.7% in the treatment group (p=0.591) and 30-day ED readmission was 27.5% in the control group compared to 22.3% in the treatment group (p=0.262). The percentage of patients prescribed sacubitril/valsartan and sodium-glucose co-transporter 2 (SGLT2) inhibitors at discharge in the control group versus the treatment group was 16.2% versus 37.5% (p=0.009) and 1.5% versus 16.7% (p=0.004), respectively. In a sub-group analysis of patients that were seen by only a HF navigator in the control group (67 patients) versus those seen by a HF navigator or had a pharmacist intervention in the treatment group (86 patients), the 30-day ED readmission rate was 29.9% versus 5.8% (p=0.001). After controlling for potential confounding variables, only the treatment group was associated with a reduction in the likelihood of an ED visit within 30 days of the index hospital admission (OR=0.197; 95% CI: 0.068-0.570, p=0.003).

Conclusion: An inpatient pharmacist-driven TOC program, as part of a multidisciplinary team, significantly increased the percentage of patients prescribed sacubitril/valsartan or SGLT2 inhibitors at hospital discharge. There was no significant difference in all-cause 30-day hospital readmission, HF-related 30-day readmission, or 30-day ED readmission rates between the two cohorts. This may be due to the relatively low 30-day readmission rate in the control group compared to previous studies. Patients that were seen by a HF navigator or had a pharmacist intervention in the treatment group was associated with a significant reduction in 30-day ED readmission compared to the control group.