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Title: *A Retrospective, Single Center Study Evaluating COPD Management and Hospital Readmission*

Purpose

Chronic Obstructive Pulmonary Disease (COPD) contributes to 5% of global deaths and billions in health care spending. The increased attention of health care spending and the push towards value-based services has lead Centers for Medicare and Medicaid Services (CMS) to take a closer look at patients with COPD, and the rates of hospital admissions and readmissions. This shift in focus comes with the intent of improving quality of life, decreasing exacerbations and disease progression, and provides a role for pharmacists to ensure proper medication prescribing and utilization. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) Guidelines provide recommendations for COPD medications throughout different stages of disease progression; initial treatment, step up therapy and exacerbations. The primary objective of this study is to assess the hospital discharge medications for COPD after a hospitalization due to an exacerbation. This study will evaluate the COPD medications used and the recurrence of hospital readmission rates among this population.

Methods

The study was conducted via retrospective chart review of patients admitted to SIU Internal Medicine Hospitalist services at Memorial Medical Center between December 1, 2017 and July 1, 2018. Eligible patients were identified by ICD 10 codes indicative of COPD or acute COPD exacerbation. Once participants were identified the medications used for the management of COPD were assess and compared to the recommendations of the GOLD 2018 Guidelines. Primary outcomes included 30 day all cause readmission rates for patients with documented COPD; COPD medications prescribed at discharge and the appropriateness of dosing compared to GOLD guidelines; and hospitalization due to COPD exacerbation.

Results

The average age of patients was 66.2 \bar{x} , ± 10.2 and 66% were female. Medicare was the primary form of insurance for 78% of patients. Smoking status was recorded as "never smoked" (12.4%), "current smoker" (43.8%), or "former smoker" (43.8%). Charlson comorbidity index (CCI) was recorded as 4.6 \bar{x} , ± 1.9 . At discharge 57% of patients had a change in therapy based the discharge medication list. Also assessed was the appropriateness of therapy at discharge, 59% of patients were determined to be on appropriate therapy at discharge.

Conclusions

No statistically significant results were found in the primary outcome, however, by looking at the medication list at discharge it is evident that patients are not on guideline recommended therapies. Whether or not appropriateness of therapy at discharge had an effect on the rate of hospital readmission, was unable to be determined in this analysis. Additional studies with larger sample sizes are needed to better assess this. Given the results of the CCI scores, it can be concluded that patients with a higher CCI on admission generally present for readmission sooner than those with a lower score