Impact of pharmacist led provider education on outpatient COPD management

Erica Dominguez
Ben Rosati
Trevor Laursen

Follow this and additional works at: https://digitalcommons.psjhealth.org/oaa_pmg_21

Part of the Pharmacy and Pharmaceutical Sciences Commons
Impact of pharmacist-led provider education on outpatient COPD management
Erica Dominguez, PharmD, Benjamin Rosati, PharmD, BCACP, and Trevor Laursen, PharmD, BCACP

Purpose
To evaluate the efficacy of provider education on adherence to guideline-directed therapy in outpatient chronic obstructive pulmonary disease (COPD) management in South Oregon PMG clinics.

Background
- COPD is the third most common cause of death in the US
- The CDC reports costs attributable to COPD in 2010 were $32.1 billion – projected to have increased to $49 billion by 2020
- Direct healthcare costs include detection, prevention, physician office visits, hospitalizations, home care, and medications – hospitalizations accounting for about 45-50% of these direct costs
- Clinical burden of uncontrolled COPD has been shown to impact quality of life, health status, daily activities, physical activity, sleep, comorbid anxiety and depression, and disease progression
- Data indicates a direct relationship between severity of COPD and overall cost of care. Studies have also shown that adherence to guideline-directed therapy for COPD decreases trends in cough and shortness of breath, exacerbations, emergency department visits, and hospitalizations
- PMG Clinical Pharmacists have shown positive outcomes in collaborative management of chronic disease states such as diabetes, hypertension, and cardiovascular risk reduction, making pharmacists well positioned to provide education on guideline adherence

Outcomes
- **Primary Outcome**
  - Change in provider adherence to guideline-directed therapy in COPD management as determined by pre- and post-surveys
- **Secondary Outcome**
  - Change in percentage of patients where a CAT/mMRC score was reported before and after survey intervention
  - Baseline reporting of pulmonary function tests (PFTs)
  - Change in percent appropriateness of inhaler therapy between February 2021 and March 2021 pre- and post-provider education as determined by guideline recommended therapy

Methodology
- **Interventions:**
  - Comparison of pre- and post-survey responses following provider education sessions for the primary objective
  - Chart review of January 2021 and March 2021 for secondary objectives
- **Inclusion Criteria:**
  - Providers: PMG primary care providers in Southern Oregon clinics
  - Providers who choose to complete pre- and post-surveys
  - Patients: ≥18 years with confirmed diagnosis of COPD
- **Exclusion Criteria:**
  - Providers: Pulmonologists
  - Patients: Asthma/COPD and asthma diagnoses
  - Elevated IgE levels (>0.35 kIU/L) if obtained

Provider Survey Results

<table>
<thead>
<tr>
<th>Table 1. Primary Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Survey</td>
</tr>
<tr>
<td>Q1 Knowledge</td>
</tr>
<tr>
<td>Q2 Classifying</td>
</tr>
<tr>
<td>Q3 Classifying</td>
</tr>
<tr>
<td>Q4 Initial Treatment</td>
</tr>
<tr>
<td>Q5 Initial Treatment</td>
</tr>
</tbody>
</table>

Chart Review Results

<table>
<thead>
<tr>
<th>Table 2. Baseline Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2021</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender – male, (%)</td>
</tr>
<tr>
<td>Duration of COPD – yr</td>
</tr>
<tr>
<td>Pack year history &gt;20 yrs, no.</td>
</tr>
<tr>
<td>Current smoker – no. (%)</td>
</tr>
<tr>
<td>Followed by pulmonology, no. (%)</td>
</tr>
<tr>
<td>Post-bronchodilator FEV1 – liters</td>
</tr>
<tr>
<td>Post-bronchodilator ratio of FEV1 to FVC (%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3. Secondary Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2021</td>
</tr>
<tr>
<td>Baseline reporting PFTs – n (%)</td>
</tr>
<tr>
<td>Change in percent of CAT/mMRC scores reported – n (%)</td>
</tr>
<tr>
<td>Change in percent appropriateness of inhaler therapy – n (%)</td>
</tr>
</tbody>
</table>

*Two baseline PFTs obtained in February 2021
**Pulmonology Reported

Discussion
- **Primary Outcome:**
  - There was statistically significant improvement seen after provider education for classification and initial treatment of COPD management as determined by pre- and post-surveys.
  - Other findings from provider surveys include:
    - Cost of inhalers was reported to be a barrier in COPD management 75-90% of the time.
    - Other overarching barriers identified include patient adherence, smoking cessation, formulary changes, and time and availability with the patient.
- **Secondary Outcome:**
  - All CAT/mMRC score reporting were conducted by pulmonology specialty and no change in reporting was seen in primary care clinics.
  - There was a change in baseline reporting of PFTs between January 2021 and March 2021 in primary care clinics. Two baseline PFTs were obtained in February 2021 post-provider education.
- **Limitations:**
  - Reduced post-survey responses submitted after each provider education session. Pre-survey and post-survey answers were unable to be matched for analysis.

Conclusions
- Pharmacist-led provider education positively impacted COPD management as determined by pre- and post-surveys
- Barriers identified for optimized COPD therapy fall under the scope of management by clinical pharmacy
- Further workflows to improve obtaining baseline PFTs and symptom reporting in primary care settings is needed

Next Steps
- Propose to implement mMRC/CAT questionnaires by clinic team prior to PCP visits
- Workflow for consults/referrals to clinical pharmacy in those whose COPD is not well controlled

References

Disclosure Statement
Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Erica Dominguez: Nothing to disclose
Benjamin Rosati: Nothing to disclose
Trevor Laursen: Nothing to disclose