

Constellation of COPD and Cardiometabolic Conditions Addressed with Interactive CME

Introduction

Chronic obstructive pulmonary disease (COPD), a complex illness with multiple systemic effects and comorbidities, requires an integrated approach for its optimal management.¹ The presence of cardiometabolic comorbidities (including cardiac disease, diabetes mellitus, and hypertension) has important considerations in managing COPD.² Not only do they affect patient adherence by adding to the burden of polypharmacy, their presence can also independently impact patient response to COPD therapy.² In fact, studies have shown that the majority of COPD patients die from comorbid conditions and subsequent complications rather than COPD itself.³ However, despite these impacts, clinicians often do not assess the presence of comorbidities in patients with COPD and are less likely to prescribe bronchodilators to COPD patients with cardiovascular disease (CVD), often due to lack of knowledge about the cardiovascular safety of these therapies. As such, there is a need to educate clinicians on the impacts of concomitant COPD and CVD, and best practices for managing COPD patients with comorbidities.⁴⁻⁶

To address these gaps, we developed and launched a 9-part interactive online infographic activity titled "[*The Intersection Between COPD & Cardiometabolic Conditions*](#)", which covered the spectrum of COPD and CVD using high-impact visuals, faculty audio guidance, patient cases, and patient education tools.

Methods

Using extensive interactive features, including slider bars, 5-15 second animations, interactive maps, rollovers, multiple data visuals, and audio clips, the activity presented a variety of multi-modal content that included didactic information, embedded patient cases for each section, and audio recordings of expert faculty explaining treatment modalities and patient case conclusions. Throughout the activity, learner engagement was maintained by interactivity questions, and layering the information behind an initial primary view. All participant interactions were tracked and analyzed to allow for a detailed analysis of learner behavior.

Attendees were surveyed prior to, during, and following the activity assessing their knowledge, competence, and practice patterns relating to the educational objectives to gain an objective measure of change in knowledge and competence. Pre/post-test results were analyzed via a chi-square test to evaluate the percentage of correct responses and determine statistical significance (set at $p < 0.05$).

Results

A total of 3,106 learners, including 1,239 learners that proceeded to the evaluation, participated in this activity. Based on the findings, the activity significantly increased the knowledge about the prevalence and impacts of CVD in patients with COPD (from 43% preactivity to 77% postactivity), as well as about practical team approach strategies (from 36% preactivity to 73% postactivity). In addition, a significant increase in competence (from 53% preactivity to 75% postactivity) related to diagnosing COPD and treating COPD in patients with CVD or at high CVD risk was observed (Figure 1).

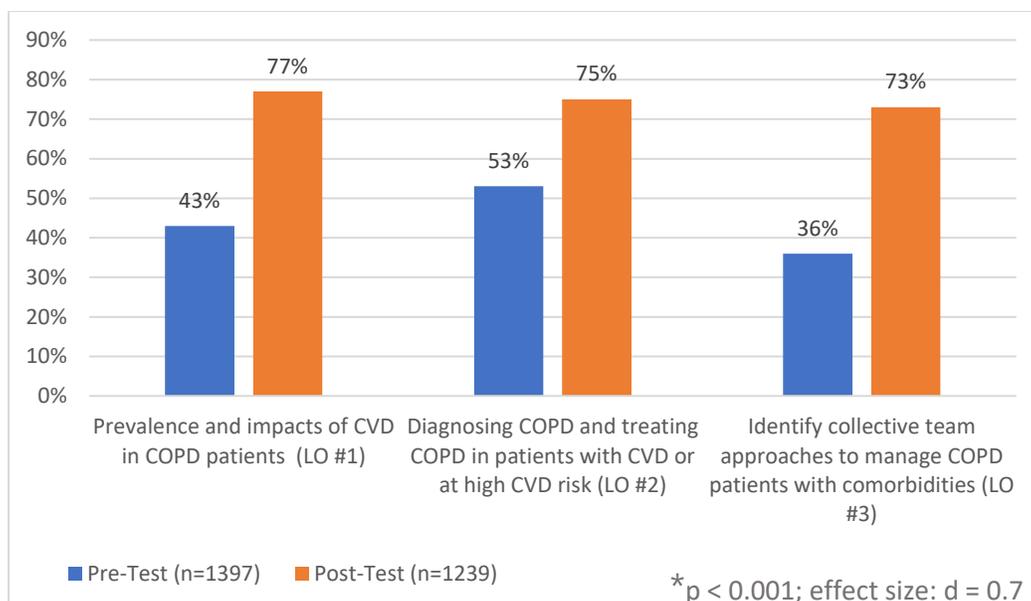


Figure 1. Knowledge and competence gains across learning objectives

90% of respondents said that they planned to make changes, and the top 3 changes were: diagnosing COPD based on the 2018 GOLD guidelines, considering the risks and benefits of COPD treatments based on patient profiles, including the presence of cardiometabolic conditions, and assessing patients with COPD for cardiometabolic conditions.

Learners interacted 26,165 times with the activity, and analysis revealed that participants were most interested in a) the application of care for patients with COPD and cardiometabolic conditions, b) cardiovascular safety of COPD treatments, c) therapeutic recommendations for COPD, and d) practical strategies for the multidisciplinary care of these patients.

Translation to practice

Results from this activity indicate that this interactive format can result in significant improvements in knowledge and competence, as well as commitment to change among learners, which can potentially result in increased awareness about the impacts of COPD and cardiovascular disease and ultimately optimize patient care. Furthermore, participants indicated that they see an average of 43,484 COPD patients per week, which further enhances the potential of the activity to impact clinical behavior. The successful implementation and execution of this innovative program should influence other educational providers to develop similar future activities considering the high engagement, increase in knowledge and competence, and overall positive feedback from the learners.

Limitations and ongoing gaps

One of the biggest lessons learned with this type of innovative format is that it is not for every learner type. We saw, on average, a 50% bounce rate, which is quite high, however, the average time spent on the activity was almost 30 minutes. We believe that half the learners directed to this activity decided it was not the type of activity for them, but the other half was extremely engaged and spent a long time engaging with the activity. Additionally, results showed that ongoing education on the following areas would be beneficial:

- COPD diagnosis and assessment

- COPD therapy for patients with cardiometabolic conditions, including hypertension and dyslipidemia
- How to assess and evaluate concomitant COPD and chronic heart failure exacerbations

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