

# Living Healthy with Chronic Disease: The Effect of Chronic Obstructive Pulmonary Disease (COPD) Education on Self-Management

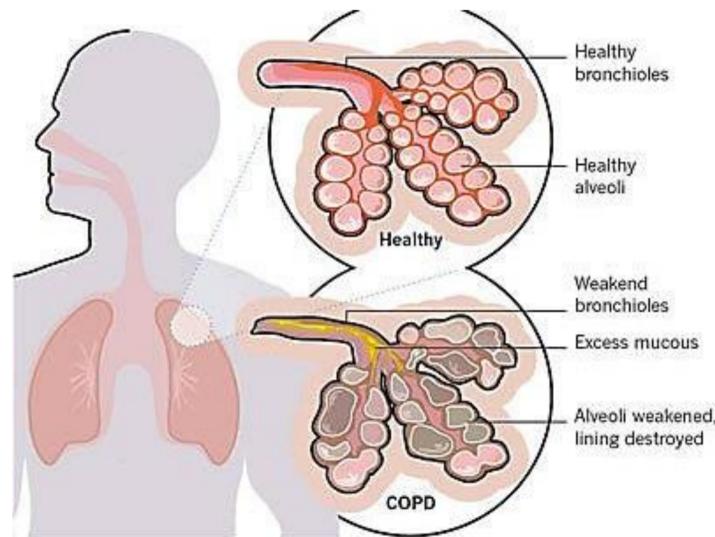
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## Introduction & Background

Chronic obstructive pulmonary disease (COPD) – the progressive destruction of airways – is currently the fourth leading cause of death both in Canada and globally, and among all chronic diseases, including cancers and diabetes, it is the only leading cause of death that is increasing.

COPD is characterized by acute exacerbations (AEs), defined by changes in purulence, viscosity or volume of sputum production, often times with an increase in dyspnea. As such, quality of life is impaired in patients with COPD and deteriorates considerably



with increasing severity of disease. Three to 16% require hospitalization, and, in the case of severe AEs, mortality is up to 10%. Yet, COPD is a controllable disease. There is emerging evidence that

self-management education might benefit COPD patients.

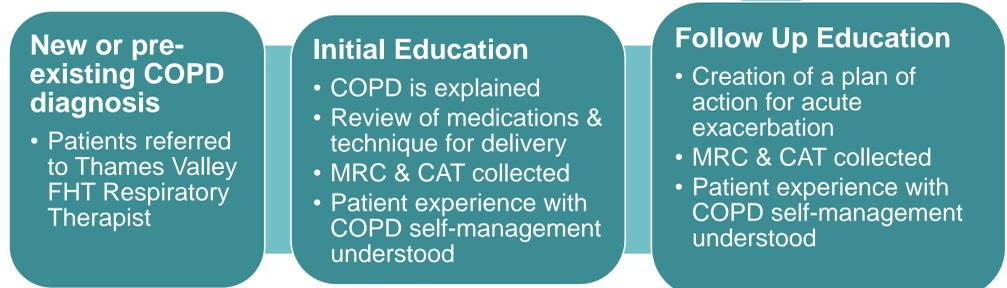
In the South West Local Health Integration Network (LHIN) catchment area, the prevalence of COPD for people over 30+ years is 4.4% compared with the provincial rate of 4.1%. With the Thames Valley Family Health Team (FHT) caring for nearly 15.5% of the SW LHIN population, there is a great need for providing preventative, continuous care and improve self-management practices for COPD – now.

## Purpose

This study considered the COPD self-management education pilot programme provided by the respiratory therapists (RTs) at Thames Valley FHT, and hypothesized that patient self-management of their COPD will improve after having received this education.

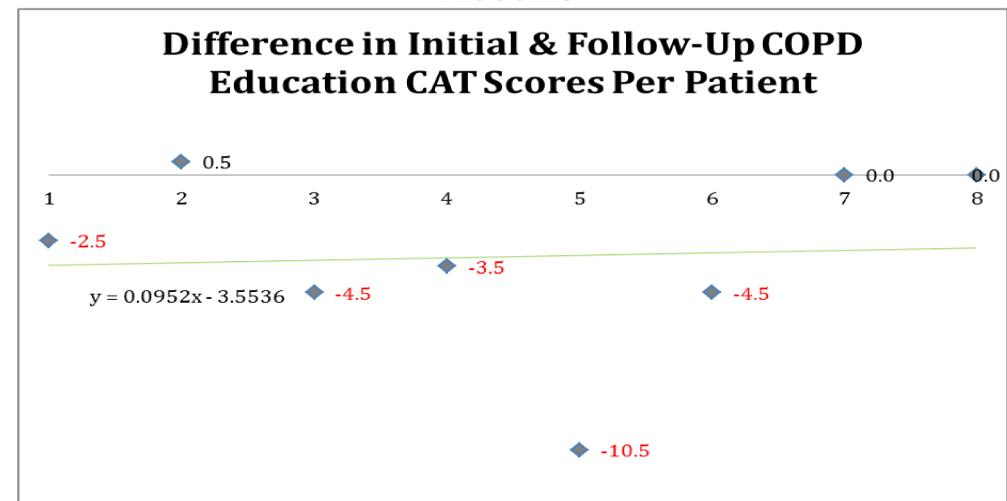
## Methods

726 rostered patients with a confirmed diagnosis of COPD were retrieved from the electronic medical records (EMRs) of two Thames Valley FHT primary health care organizations. All patients were eligible for this study, and were divided into two groups: those receiving the COPD self-management education pilot programme July 2013 – July 2014, and those who have not yet received this education during this same time period. The COPD self-management education pilot programme charter is based on the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines:

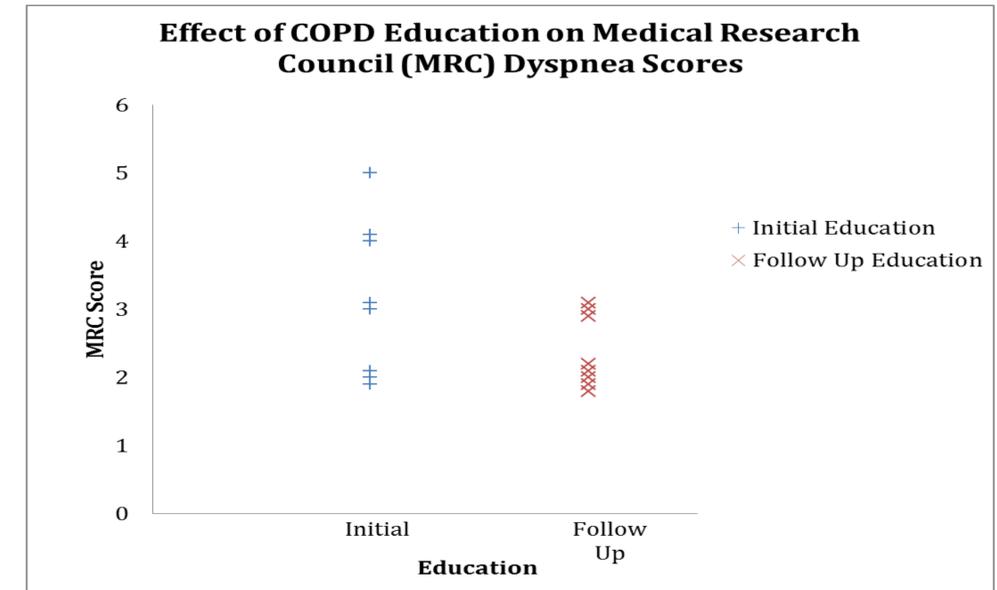


The MRC dyspnea scale grades the degree of a patient's breathlessness. The CAT score indicates the impact of the disease on a patient's health status.

## Results



**Figure 1.** Difference in initial and follow-up COPD education CAT scores per patient (n=8). Differences are represented as a factor of two. Negative numbers indicate a decrease in CAT score and are indicated in red. A line of best fit has a y-intercept of -3.5536, and scores show an average of -3.1 (std dev. 3.60)



**Figure 2.** The effect of COPD education on MRC Dyspnea scores at time of initial and follow-up COPD education appointments (n=8). Average scores at initial appointment = 3.0 (std dev. 1.19); average scores at follow-up appointment = 2.38 (std dev. 0.518).

"I feel better about controlling my symptoms with this action plan"  
 "Wow. I can't believe I have been using my puffers wrong for so many years!"  
 "I feel like I am in control now, and I have the tools to stay there"

## Discussion & Limitations

Figure 1 shows that there is a statistically significant change in CAT scores at initial and follow-up COPD education appointments. Conversely, Figure 2 shows that there is not a statistically significant change in MRC Dyspnea scores between initial and follow-up appointments overall, but some patients did show a decrease in scores. Qualitatively, patients expressed a positive change in their ability to manage their COPD at their follow-up appointment. As such, COPD education delivered in this format may have an overall benefit to patient in their ability to self-manage their COPD. However, the limitations of this study were in the availability of data. This study highlighted a need for collecting data in a standardized manner to effectively inform future studies.

## Select References

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 Connors Jr. AF, Dawson NV, Thomas C, Harrell Jr. FE, Desbiens N, Fulkerston WJ et al. Outcomes following acute exacerbation of severe chronic obstructive lung disease. Am J Respir Crit Care Med 1996;154:959-967.