

Examining the correlation between days of admission and disease severity in patients with COPD

Kristina Kock Hansen¹, Lone Bach Kristensen², Ole Hildeberg¹, Anders Løkke¹

¹ Department of Respiratory Diseases, Lillebaelt Hospital, Vejle, Denmark

² Department of Economy and Planning, Lillebaelt Hospital, Kolding, Denmark

Introduction



Worldwide chronic obstructive pulmonary disease (COPD) is among the leading causes of morbidity and mortality.

The Copenhagen City Heart Study displayed a 17.4% prevalence of COPD in Denmark. Furthermore, total Danish health expenses are twice as high in COPD compared to controls; e.g. COPD patients had significantly higher rates of health related contacts (Løkke et al, 2014). However, little is known about the association between number of admission days and disease severity in COPD.

Aim

The aim of this quantitative real-life study was to examine the correlation between disease severity in COPD (defined as forced expiratory volume in first second, FEV₁, and MRC dyspnea scale) and number of admission days for COPD.

Additionally, to examine to what extent COPD burdens the health care system (number of patients and admission days) compared to other diagnoses.

Methods

An extract of FEV₁ and MRC from electronic patient records in 2019 at Lillebaelt Hospital, Kolding and Vejle, was conducted. Patients ≥ 35 years admitted for exacerbation in COPD were included.

Results

319 patients with FEV₁ 20-70% were hospitalized due to COPD in 2019. In total, patients were hospitalized 2582 days. The lower FEV₁ the higher number of admission days per patient (except FEV₁ 50-60%).

Chart 1

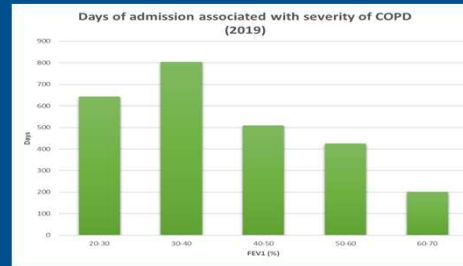
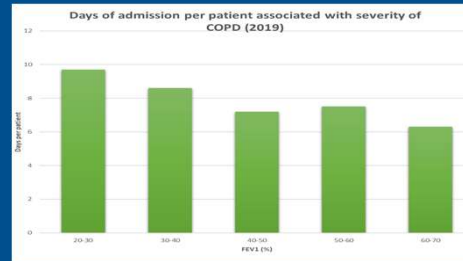


Chart 2



364 patients had a registered MRC score. In total, patients were hospitalized 3019 days. The higher MRC score, the higher number of admission days per patient (except MRC score 1).

Chart 3

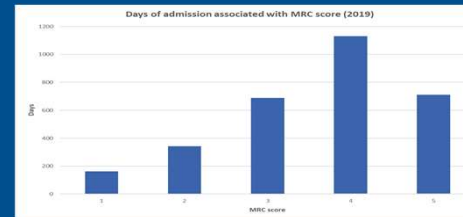
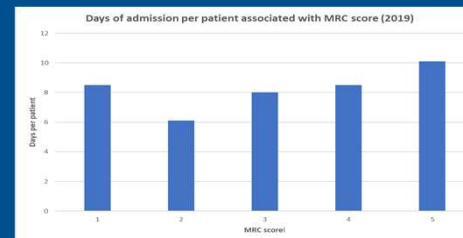


Chart 4



Results (continued)

Additionally, an extract including diagnosis, number of patients and admission days was conducted. The results in the illustrations below shows that COPD is an enormous burden in the health care system*

Chart 5

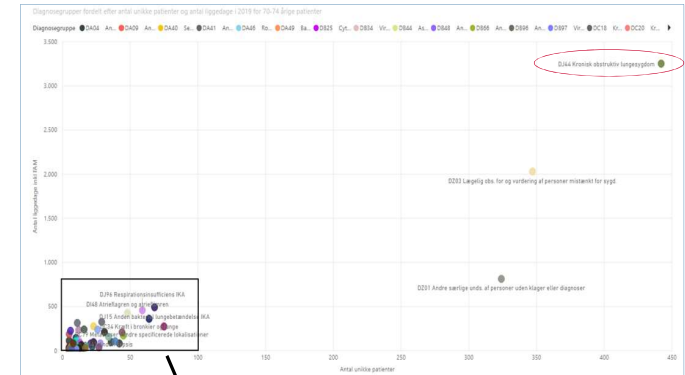
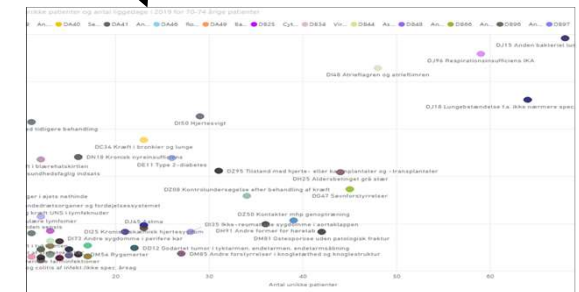


Chart 6



* Groups of diagnoses distributed on number of admission days and patients (unique) in 2019. Patients are 70-74 years old.

Main Finding

Both low FEV₁ and high MRC seem strongly correlated with number of admission days. This finding is extremely interesting in the light of the omittance of lung function from the risk assessment in recent GOLD-guidelines and should be investigated further.