Focal Points

- 87,408 people were identified as having COPD within the CPRD database in 2014, of which 10.8% were newly diagnosed.
- Over 78% of the patients had at least one prescription for an inhaled corticosteroid during 2014.
- However, only 26% of patients were recorded as having severe or very severe COPD, as defined by spirometry, which makes them eligible to receive inhaled corticosteroid therapy.

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is thought to be diagnosed in approximately one million people in the UK. There are national and international guidelines for the treatment of COPD, such as the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD). These guidelines recommend, amongst other medications, the use of inhaled corticosteroids (ICS) in the treatment of COPD; however it restricts their use to patients with significantly reduced lung function (a forced expiratory volume in one second (FEV₁) of <50% predicted) and with frequent exacerbations or breathlessness (figure 1). In practice, this guidance is rarely adhered to.

Methods

People with COPD were identified in CPRD by the use of COPD-specific medical codes documented at any time during the patients’ registration in the database and a prescription for at least one COPD-related medication between 1st January 2014 and 31st December 2014.

Smoking status of people with COPD was identified by using the entity code which identifies smoking status in the database. This was used in combination with medical codes, which recorded amount smoked per day.

The severity of COPD was assessed as per NICE guidance by categorising the severity of lung function (FEV₁) reduction.

The data was cleaned by removing records with: no patient age, or a patient age of <35 years at 1st January 2014, a FEV₁ of >100%, <5% or above eight litres.

Stata v14 was used for data analysis. Independent Scientific Advisory Committee for MHRA database research approval has been granted.

Results

A total of 87,408 people were identified as having COPD within the CPRD database in 2014. The mean age was 70 years (SD = 14.4) and 50.8% female. There were 9,431 (10.8%) new diagnoses of COPD during 2014 and 3,987 (4.6%) deaths.

78.2% of these patients had at least one prescription for an inhaled corticosteroid during 2014; either as a single agent (e.g. beclometasone) or in combination with a long acting beta-agonist (e.g. beclometasone/formoterol).

Only 26.2% of the total COPD population were recorded as having severe or very severe COPD, and therefore had an indication to receive ICS. This suggests that there may be substantial over prescribing of ICS to people with COPD who do not meet the guidance criteria.

However, 27.8% of COPD patients also had an asthma diagnosis recorded. Asthma guidelines differ to the COPD guidelines with respect to ICS use; ICS are indicated at all stages of asthma treatment. It has not been determined if this sub-group of COPD patients were all prescribed ICS, and were therefore treated appropriately, contributing to the overall total of ICS prescriptions.

Conclusions

The demographic of the COPD population in the CPRD database has been characterised. In addition the number of people with COPD prescribed ICS in this dataset has been established. The main limitation of this study is in using data from a large database; accuracy of data entry is unknown. This was minimised throughout this study by cleaning the data and removing clearly erroneous records. Further work is needed to establish factors for overprescribing ICS in this COPD cohort identified and whether this had any benefit to the patients.

References