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EXTENDED ABSTRACT

A21 Estimation of Chronic Obstructive Pulmonary Disease Prevalence in Portugal using Data from Community Pharmacies

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Introduction

Recent COPD prevalence estimates available in Portugal are significantly divergent from the number of diagnosed patients referenced to the national health service, resulting on different disease impact assessments [1- 3]. The most recent study conducted in Lisbon, Portugal, was based on the Burden of Obstructive Lung Disease (BOLD) protocol for diagnosis of the different stages of COPD and targeted adults aged 40 years or older. It was performed in 2008 (data collection) and the estimated overall prevalence of COPD was 14,2%, with high tendency to increase. The assessments of disease prevalence are traditionally based on primary data sources, such as questionnaires, or medical health records, which require significant allocation of resources and data privacy concerns, and thus the time gap between estimates.

This study aims to develop an economically viable and reproductible method to estimate the prevalence of patients on medication for COPD in Portugal using data generated from prescription and dispense of medicines in community pharmacies.

Methods

Data from medical prescriptions comprising at least one specific medication for COPD were used to extrapolate the medication used for a 12-months period, at the patient level, considering the average daily dose, treatment duration and class-specific Medication Possession Ratio (MPR) as reported in the literature [4]. The fact that some medication used to treat Asthma and/or COPD are also commonly used to treat minor ailments and other different disorders could lead to overestimation of the prevalence (ex.: ICSs, OCSs, anti-histaminic drugs and mucolytics). Therefore, specific therapeutic classes considered comprised only LABA, LAMA, SAMA, Leukotriene Receptor Antagonists and Xanthines [5].

Considering the calculated average medication used per patient in each therapeutic regimen, all the dispenses of any medication associated with COPD from the total dispenses of national community pharmacies were distributed to estimate the prevalence in the Portuguese population. Prevalence estimates were also adjusted for other therapeutic regimens extrapolating accordingly from a larger dataset of medical prescriptions for Asthma and/or COPD.

Results

The estimated prevalence of treated COPD in Portugal in the 12-month period from Sep2018 to Aug2019 was 1,89% (approximately 194.400 patients). Also, the most common estimated treatment regimen was ICS/LABA, followed by LABA/LAMA (approximately 27% and 22% of treated COPD patients, respectively (See Table 1). Prevalence in males was approximately twice of that of females (approximately 2,6% and 1,2%, respectively), consistent with previous studies [1- 2]. Moreover, the highest increase in prevalence within age groups was observed from 40-49 to 60-69 years old (approximately 4% increase in prevalence) and stabilized for 70+ age groups.

Discussion

The number of treated COPD patients presented supports the underdiagnosis of COPD in Portugal, when compared to the most recent estimates based on data from primary sources (1,89% versus 14,2% [2]). Moreover, the prevalence estimated in this study is consistent with that based on the national health service [3], for the same period (170.000-180.000 patients). This suggests that the referencing to the national health service occurs only when symptoms become evident or unmanageable for the patient, which is not the case for the first stages of COPD.

Keywords:
COPD, Pharmacies, Prevalence

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Table 1 - Percentual distribution of therapeutic regimens in the population treated for COPD.

Therapeutic regimen	COPD Treated Population (%)
ICSs/LABA	27,19%
LABA/LAMA	21,69%
LAMA	17,36%
LABA	7,77%
Xanthine	6,52%
SAMA	5,09%
ICSs/LABA + Leukotriene receptor antagonists	1,57%
LABA + Leukotriene receptor antagonists	1,29%
LABA + ICSs/LABA	1,04%
Leukotriene receptor antagonists	1,02%
Others	< 1%

This study reinforces the role of the data generated in community pharmacies on the assessment of the real burden of diseases. The method retains national and regional representativity of the data used and enables stratified estimates and continuous/periodic monitoring of the number of individuals treated for COPD.

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