

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a progressive and debilitating respiratory condition that leads to a heavy burden, both medically and financially. It affects millions of people worldwide and causes high levels of morbidity and mortality. From 1990 to 2015, the prevalence of COPD increased by 44.2% (41.7 to 46.6)¹ and COPD under-recognition and under-diagnosis reduces the accuracy of mortality data² figures, however, the World Health Organization (WHO) reported that COPD caused 3 million deaths in 2016.

This disease was the third leading cause of death in 2016. The lack of knowledge of the risk factors and symptoms associated with the pathology lead to underestimating this health problem and under-diagnosing it.

In the European Union, the total direct costs of COPD is €38.6 billion with a strong impact on caregivers.

COPD, characterized by irreversible airway obstruction, is usually progressive and associated with a state of chronic inflammation of the lung tissue. The long-term consequence is a remodeling of the bronchi, which causes a substantial reduction in respiratory capacity. The increased susceptibility to respiratory infections (viral, bacterial or fungal) worsens the symptoms. The

symptomatology interferes with normal breathing and is not fully reversible³.

Dyspnea, a sense of increased difficulty in breathing, chest heaviness, air hunger or gasping, are the major symptoms and cause of the disability and produce COPD anxiety. Chronic coughing, sputum production, wheezing and chest tightness can be present in COPD patients, while fatigue, weight loss and anorexia are common problems in patients with severe and very severe COPD. Cigarette smoking is the main risk factor for developing COPD, but other risk factors related to occupation and indoor/outdoor pollution exist and need to be recognized. Despite these facts and figures, COPD remains an unknown disease, especially amongst the population, presenting high risk factors. In the survey conducted in July 2017 by GfK Eurisko, entitled "*COPD: awareness, experience and impact on quality of life*", in five European countries (Italy, Germany, Spain, the United Kingdom, Belgium) on a sample of 4,250 people aged 18 and above, only 35% of respondents had heard of COPD. The Italian newspaper, *Il Sole 24 Ore Sanità* highlights that to the basic question "Have you ever heard about COPD?", the answer was "no" in two out of three cases. Only 45% of Germans, 44% of the British, 41% of Spanish, 20% of Belgians and, at the end, 10% of Italians answered "yes"⁴.

1 GBD 2015 Chronic Respiratory Disease Collaborators, *Global, regional, and national deaths, prevalence, disability -adjusted life years, and years lived with disability for chronic obstructive pulmonary disease and asthma, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015*, The Lancet, August 2016

2 2018 GOLD Report

3 WHO, *COPD: Definition*, in www.who.int

4 *Il Sole 24Ore Sanità, Bpco, Indagine Eurisko: Due europei su tre non la conoscono*, 12.09.2017

A surprisingly low number, for a disease that affects 348 million people worldwide.

Prevention is fundamental to minimize the risk factors. At present, although there is no effective cure, patients can follow different treatments to control symptoms and avoid dangerous complications.

Informing citizens more about the risk factors, the symptoms and the available treatments, results in preventing the onset of new cases, diagnosing the currently underestimated cases and improving therapeutic adherence.

Promoting good therapeutic adherence is very important to increase treatment effectiveness and improve COPD patient safety and quality of life. Usually, this pathology requires the administration of complex therapies but, at the same time, in most cases the patient's self-management plays a fundamental role.

The above-mentioned Gfk Eurisko survey confirms a high rate of COPD patient non-therapeutic adherence. Out of the 75% of European respondents answering the question "Do you normally follow the prescribed treatment regularly or does it happen occasionally not to take the drugs for COPD?", 25% said they did not take medication occasionally. Out of this 25%:

- 50% answered "I feel better and I think I do not need it"
- 41% answered "I forget to take it"
- 23% answered "They did not tell me that I should always take them/with continuity"
- 13% answered "Taking too many drugs makes me feel sick"

- 11% answered "It's challenging taking several drugs every day"
- 5% answered "It is difficult to use different types of dispensers for different drugs"
- 4% answered "Therapy is not effective"
- 3% answered "It's a complicated treatment, it's easy to make a mistake".

These answers highlight the main causes that give rise to a low adherence to the prescribed therapies. It is a very big problem, because if patients under-dose or forget to take their medications, they are more likely to be inadequately treated.

COPD treatment aims to alleviate day and night time symptoms and improve the quality of life of patients, preventing the progression and exacerbations of the disease.

35% of the COPD patients interviewed during the Gfk Eurisko survey said they were taking a drug, 42% said they were taking two different drugs, and 23% said they were taking 3 or more different drugs. Inhalation drugs are the most widely used, followed by oral drugs and sprays and the most commonly used device the dry powder inhaler (DPI).

The incorrect use of inhalers can lead to little or no medicine being inhaled or reaching the lungs, impeding drug deposition or an insufficient dose. Two thirds of COPD patients make errors using the inhaler, obtaining a low symptom control. Determinants of poor inhaler technique include an older age, use of multiple devices and lack of previous education on inhaler technique.

A greater efficacy, a faster action mechanism and the use of a single device are the first three patient needs revealed in the Gfk Eurisko survey.

Taking these data into account allows patients to increase therapeutic adherence and obtain a better quality of life.