



## Review

# Chronic obstructive pulmonary disease: The golden decade. Implications for the diagnosis, prevention and treatment of chronic obstructive pulmonary disease<sup>☆</sup>

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## ABSTRACT

Chronic obstructive pulmonary disease (COPD) is a complex and heterogeneous illness, which causes an important socio-economic burden. The last decade has witnessed significant advances in the understanding and knowledge of COPD with a paradigm shift in both the assessment and management of the disease. The article here reviews these changes with a particular focus on the last revision (2013) of the Global Strategy for the Diagnosis, Management, and Prevention of chronic obstructive pulmonary disease.

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## Enfermedad pulmonar obstructiva crónica: la década prodigiosa. Implicaciones para su diagnóstico, prevención y tratamiento

## RESUMEN

La enfermedad pulmonar obstructiva crónica (EPOC) es una afección compleja y heterogénea, altamente prevalente y con un impacto socioeconómico importante. El último decenio puede ser calificado como «década prodigiosa» para la EPOC gracias a los numerosos avances que se han producido en la comprensión global de la enfermedad, lo que se ha traducido en novedades fundamentales en su abordaje diagnóstico, evaluación clínica y estrategia terapéutica. El texto que sigue revisa de forma breve estos cambios, con especial énfasis en las propuestas clínicas de la última revisión (2013) de la *Global Strategy for the Diagnosis, Management, and Prevention of chronic obstructive pulmonary disease*.

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## Palabras clave:

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## Introduction

Chronic obstructive pulmonary disease (COPD) is a significant health problem due to its high prevalence (in Spain, it affects 10% of the population over 40 years old),<sup>1</sup> increasing incidence (it is

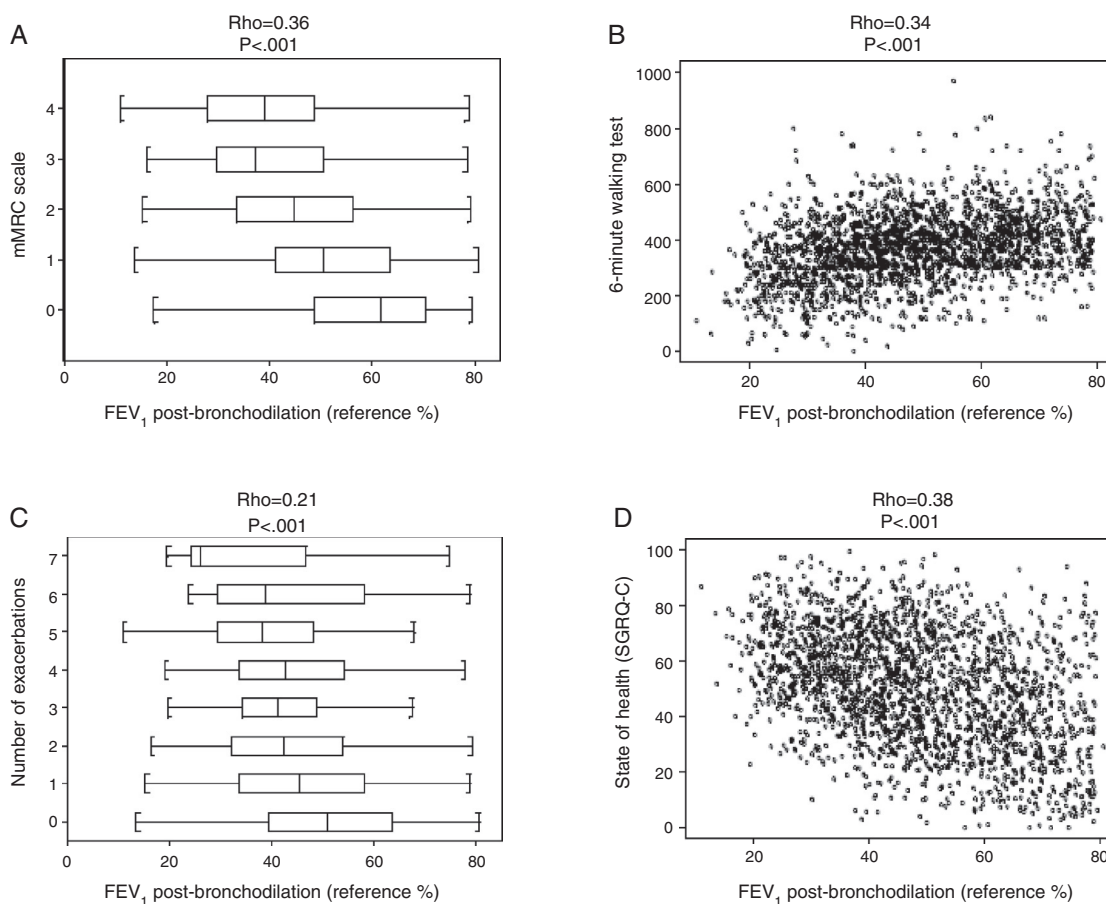
currently the fourth cause of mortality globally and the World Health Organisation predicts that it will be the third by 2020)<sup>2</sup> and important associated social and economic costs.<sup>3</sup> In fact, an analysis of global disease, published recently, placed COPD second, just behind cardiovascular diseases.<sup>4</sup>

During the last decade—a 'momentous' period for COPD—numerous changes and important advances have been made regarding the understanding, diagnosis, assessment, and treatment of COPD. Traditionally, the degree of airflow limitation, measured using forced spirometry by quantifying forced vital capacity (FVC) and forced expiratory volume in one second (FEV<sub>1</sub>), occupied centre stage and monopolised all scenarios for COPD. Nowadays it is known that COPD is a complex (with different pulmonary and

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**Fig. 1.** Relationship between the gravity of the airflow limitation ( $FEV_1$ ) and the level of dyspnoea according to the modified Medical Research Council dyspnoea scale (panel A), exercise capacity determined by the 6-min walking test (panel B), exacerbations in the previous year (panel C), and the health level measured by St. George's Respiratory Questionnaire (panel D) in patients included in the *Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints—ECLIPSE*—study.  $FEV_1$ , forced expiratory volume in one second; mMRC, modified Medical Research Council; SGRQ-C, St. George's Respiratory Questionnaire for COPD patients. Copied with permission from Agusti et al.<sup>5</sup> For further explanation, see text.

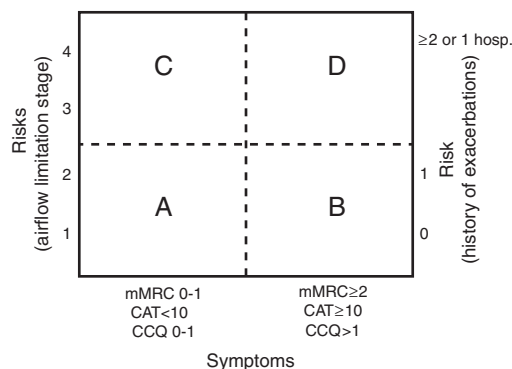
extrapulmonary manifestations) and heterogeneous (not all of them occur to the same extent in all patients) disease. Moreover, many relevant clinical manifestations of COPD—such as dyspnoea, poor health, difficulty exercising, frequency of exacerbations or the presence of comorbidities—are poorly related to the  $FEV_1$ <sup>5</sup> value (Fig. 1); however, they are currently considered the principle therapeutic objectives in treating the disease. In fact, all these considerations have led to a paradigm change in the diagnostic assessment and therapeutic approach to the disease to the extent that the standpoint of the Global Strategy for the Diagnosis, Management and Prevention of chronic obstructive pulmonary disease (GOLD) has changed: previously diagnosis, assessment and treatment of patients with COPD focused almost exclusively on  $FEV_1$ , now a different outlook proposes a multidimensional approach to the disease. While retaining  $FEV_1$  as a major element for consideration, the new approach assesses the symptoms experienced by the patient and the exacerbations of the disease that have occurred in the past<sub>6</sub> to complement an assessment of the severity of COPD and establish the risk of future episodes (exacerbations and mortality) (Fig. 2). The present study briefly reviews the main advances, changes and proposals that have arisen during this 'momentous decade' for COPD.

#### Definition: aspects for consideration

GOLD 2013 defines COPD as "a common, preventable and treatable disease, characterised by a persistent airflow limitation,

generally progressive and related to an exaggerated inflammatory response to particles and/or noxious gases. Exacerbations and comorbidities contribute to its severity in patients.<sup>6</sup>" This definition includes important aspects that deserve special mention:

- (1) It emphasises the fact that the disease is preventable and treatable, in order to counteract any therapeutic nihilism.



**Fig. 2.** Quadrant proposed by the Global Strategy for the Diagnosis, Management, and Prevention of chronic obstructive pulmonary disease for the initial assessment of a patient with chronic obstructive pulmonary disease. CAT, COPD Assessment Test; CCQ, *Clinical COPD Questionnaire*; mMRC, Modified Medical Research Council. Source: Vestbo et al.<sup>6</sup>

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