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EDITORIAL

Improving the care of COPD patients – suggested action points by the COPD exacerbations taskforce for reducing the burden of exacerbations of COPD

Chronic Obstructive Pulmonary Disease (COPD) is a preventable and treatable disease state characterised by airflow limitation that is not fully reversible. The airflow limitation is usually both progressive and associated with an abnormal inflammatory response of the lungs to noxious particles or gases [1].

Exacerbations are an important cause of morbidity and mortality in COPD and are a key driver of the medical, social and economic burden associated with the disease [2]. The significant impact of exacerbations on both patients and healthcare systems is well recognised. Patients with more frequent exacerbations have greater long-term decline in lung function, decreased quality of life, and lower survival rates [3–5]. Therefore, reducing exacerbations represents a key goal of treatment. Recent data show that approximately 50% of exacerbations may remain unreported and as a result, untreated [6]. In addition, treatment failures (particularly those resulting in hospitalisation) remain the single largest contributors to the total management cost [7]. Why should this be the case if a range of guidelines and options for prevention and treatment of exacerbations is available?

The current Global Initiative for Chronic Obstructive Lung Disease (GOLD), and the joint American Thoracic Society (ATS) and European Respiratory Society (ERS) COPD guidelines provide recommendations for the treatment of exacerbations [1,8]. Home management of COPD exacerbations involves increasing the dose and/or frequency of existing bronchodilator therapy. Systemic corticosteroids are also

recommended in patients with more advanced COPD - classified as a forced expiratory volume in one second (FEV_1) of less than 50% predicted - in whom they shorten recovery time [9,10]. Oxygen therapy is of central importance to the treatment of exacerbations in hospital. Hospital management of exacerbations also includes the use of bronchodilators and systemic corticosteroids. Non-invasive ventilation is recommended in the treatment of exacerbations in patients with very severe COPD and hypercapnic respiratory failure [11]. Antibiotics are currently recommended for patients with COPD exacerbations with increased sputum purulence if they also have either increased dyspnoea or increased sputum volume [12].

A variety of pharmacological therapies have been demonstrated to be effective at preventing exacerbations. The long-acting anticholinergic tiotropium reduces exacerbations both compared with placebo by 14% and ipratropium by 24% [13,14]. Combining the long-acting inhaled β_2 -agonist, salmeterol, and the short-acting anticholinergic, ipratropium, leads to fewer exacerbations than salmeterol alone (10% fewer) or placebo (23%) [15]. The inhaled corticosteroid, fluticasone propionate, reduces the exacerbation rate per year by 25% compared with placebo in patients with more advanced COPD ($FEV_1 < 50\%$) [16]. Combining long-acting inhaled β_2 -agonists and inhaled corticosteroids also reduces exacerbations [17–19]. These effects are most evident in patients with $FEV_1 < 50\%$ in whom the salmeterol/fluticasone combination therapy reduced the rate of exacerbations by 30% compared with placebo [17]. A systematic review of oral mucolytic drugs

showed that these drugs reduce the annual exacerbation rate by 29% compared with placebo [20]. Data from several large controlled studies have shown no benefit for the use of maintenance antibiotics in the prevention of exacerbations [21]. Non-pharmacological treatments such as pulmonary rehabilitation after an exacerbation have been shown to reduce the number of days in hospital over one year by 11 days compared with a control group [22].

Management of COPD is often multidisciplinary, with primary care playing the key role in identifying and treating the majority of exacerbations. Healthcare providers should aim to manage COPD patients in the community as much as possible by optimising early identification of COPD exacerbations and by initiating promptly appropriate treatment to reduce recovery time and the need for hospitalisation [23]. Home hospital programmes for patients with COPD exacerbations have been shown significantly to improve patient quality of life and to reduce healthcare costs by 38% compared with conventional treatment due to a reduced number of days in hospital [24]. Care plans need to recognise the multidisciplinary nature of COPD patient management, bearing in mind these patients' frequent co-morbidities (predominantly cardiovascular, metabolic and rheumatic), and should be integrated between primary care, secondary care and nursing professionals.

The COPD Exacerbations Taskforce, a new multidisciplinary group of international experts, was formed to develop a consensus on how the prevention, treatment and management of exacerbations in patients with COPD could be improved. After reviewing available data on current treatment and management practice, the Taskforce reached a consensus with five key actions that urgently need to be implemented by healthcare professionals and providers to achieve more effective implementation of current evidence-based guidelines.

The Taskforce recognised that in order to improve the recognition and diagnosis of exacerbations, primary care professionals need to be able to identify undiagnosed COPD patients. To do this, development of a simple protocol or guidelines focusing on identifying exacerbations in the previously undiagnosed patient are essential. The guidelines should also encourage referral of patients with frequent exacerbations or an uncertain diagnosis to secondary care professionals.

The primary care team should be provided with clear guidance on how to recognise an exacerbation and should also be encouraged to use spirometry

Key Action Points of the Exacerbations Taskforce:

- **Increase awareness that many COPD exacerbations can be prevented or treated**
 - improved education programmes for healthcare professionals, patients, caregivers and the general public.
- **Increase patients' knowledge about their disease and provide clearer terminology to define and explain exacerbations**
 - improved programmes for patients and their caregivers
 - improved communication between patients and their doctors
- **Development of 'pathways' for the prevention and treatment of exacerbations**
 - the development of an exacerbation treatment algorithm and wider implementation of the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines
- **Provide model programmes for multidisciplinary care**
 - formalising, sharing and promoting best practice protocols in the prevention, treatment and management of exacerbations
- **Encourage the use of spirometry in smokers and patients suspected of COPD**
 - in particular, those with a history of frequent exacerbations
 - greater education of healthcare professionals, healthcare providers and governments, on the importance of early, accurate diagnosis as a basis for appropriate treatment for COPD

routinely to confirm a COPD diagnosis in patients with chest symptoms. Improved education and awareness of the impact of exacerbations on quality of life and survival outcomes for COPD patients amongst secondary care professionals would help ensure appropriate treatment according to current guidelines and would prompt evaluation of efficacy to reduce the possibility of costly treatment failures.

Nurse roles vary considerably between healthcare systems; therefore, appropriate models of best practice in treating and managing exacerbations should be developed. Facilitation of nurse role models to train other nurses would support dissemination of best practice throughout

the nursing profession and create key contacts for the provision of more information on clinical pathways or guidelines.

Improved patient knowledge of exacerbations and their impact was identified by the Taskforce as a key step in driving earlier diagnosis and treatment. Early recognition of exacerbation symptoms by the patient, and prompt treatment, is known to reduce both the time to recovery from an exacerbation and the need for hospitalisation [23]. Healthcare professionals have an important role in educating patients and empowering them to seek appropriate treatment and/or rehabilitation. Patients should also be educated on how to adapt their lifestyle and how to reduce environmental risk factors associated with exacerbations. Greater promotion of the rights of COPD patients to improved treatment and quality of life is also required to ensure that their needs are both understood and met. More research in this area is also needed.

The COPD Exacerbations Taskforce recommends urgent action based on its five key recommendations in order to ensure correct and early diagnosis and improved prevention, treatment, and management of COPD exacerbations. It is vital that multidisciplinary healthcare professionals, patients and healthcare payers are aware that exacerbations of COPD can be prevented and treated. Improvements in the multidisciplinary management of exacerbations have the potential to impact positively on patient care, treatment outcomes, and to reduce directly healthcare utilisation costs.

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Bartolome Celli*
*Chief of Pulmonary and Critical Care,
St Elizabeth's Medical Centre, 736 Cambridge
Street, Brighton, MA 021354-2997, USA*

Sue Cross
*Associate Director of Primary Care Nursing,
Bedfordshire and Hertfordshire, UK*

Ronald Grossman
*Professor of Medicine, University of Toronto,
Ontario, Canada*

Peter Kardos
*Lung and Allergy Specialist, Maingau Hospital,
Frankfurt, Germany*

Svein Erik Myrseth
*President, European Federation of Allergy and
Airways Disease Patients Associations, Oslo,
Norway*

Roberto Rodriguez-Roisin
*Professor of Medicine, Hospital Clinic, Universitat
de Barcelona, Spain*

Jørgen Vestbo
*Professor of Respiratory Medicine, Wythenshawe
Hospital, Manchester, UK*

* Corresponding author. Tel.: +1 617 789 2554;
fax: +1 617 562 7756.

E-mail address: bcelli@copdnet.org
(B. Celli)

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