Chronic Obstructive Pulmonary Disease in Primary Care

Margaret Barnett

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Dedication

I would like to dedicate this book to all those affected by COPD.

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Foreword

Chronic obstructive pulmonary disease (COPD) is a condition that is beginning to get the recognition it deserves. It now features in the general practitioners contract, has a National Institute for Clinical Excellence (NICE) guideline and the chief medical officer's annual report has a whole section devoted to it. Nurses are taking an increasing role in COPD management in all settings: hospital, community and in general practice. Nurses are developing skills and expertise that are often outstripping those of their medical colleagues. With the role comes the responsibility. COPD remains a difficult condition to manage well.

In the early stages, it is insidious in onset; the symptoms of even advanced lung damage can be attributed to ageing. It is striking how some patients with advanced disease remain very well, still able to keep cheerful and active while others seem to be brought down low by relatively mild disease. Each individual has his or her own response to the progressive symptoms dominated by breathlessness and the fear that attends it. Many are more crippled by anxiety than lung disease itself. As the condition deteriorates, breathlessness and lack of exercise combine to limit activities. By then, all that patients have to look forward to is the next exacerbation.

This book explains the process of lung disease, how to measure lung function and gives management steps. It also concentrates on practical ways to help the whole patient, including how to cope with the disease and control the feelings of panic and helplessness. Caring in COPD also includes the families, who also suffer from the limitations caused in the patient. Carers do not have a disease but sometimes it feels like they share the consequences, with loss of holidays, reduced social life and impaired relationships, including intimate relations.

Margaret Barnett brings her insight from great experience as a senior ward sister and as a community COPD nurse specialist. The first challenge is to make an early accurate diagnosis, which remains a problem with spirometry often being performed inaccurately. The importance of managing the patients effectively through all stages of the disease depends on listening to their concerns and providing the right information to enable them to cope with the disease in the best way. It remains the case that many patients fail to receive effective smoking cessation therapy, which could prevent their decline into

disability. Nurses now need to understand the benefits of drug treatment and make sure that treatment is optimal. Nondrug treatments such as pulmonary rehabilitation are highly effective as they help all aspects of the disease. Patients unable to attend rehabilitation need to hear the messages about exercise and education, and promoting a positive view of living with COPD.

Throughout the disease process, there are things to be done to help patients. COPD is a great challenge, but is ultimately extremely rewarding.

Rupert Jones MRCGP, GP and Clinical Research Fellow, Peninsula Medical School, Plymouth

Preface

This book is written as a resource for nurses and other health professionals caring for patients with COPD. Even though there are some 900 000 people diagnosed with COPD in the UK, the disease is still regarded as a Cinderella disorder and incites a negative image.

In this book, we explore the impact that COPD has on patients and their families and how we as professionals can help them to cope and improve their quality of life. It begins with an overview of the disease, symptoms, spirometry screening and clinical assessment of COPD. Alternatives to hospital management for acute exacerbations of COPD, such as 'Hospital at Home' schemes and their benefits are discussed. Medical intervention is only one approach to the management of COPD. A chapter is devoted to maximising the patient's quality of life in spite of his or her pulmonary limitations. The last chapter discusses end-of-life issues.

Since working as a COPD Nurse Specialist in primary care I have acquired a new understanding of the needs of patients with COPD as well as the support required of their carers. My role has enabled me to help patients who live a very frightening existence, to cope with their symptoms and make an impact on their quality of life. Caring for patients with COPD is both challenging and rewarding and I hope that I can pass on this experience to the readers to enable you to deliver the best possible care to your patients.

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Abbreviations

BMI	Body mass index
BTS	British Thoracic Society
COPD	Chronic obstructive pulmonary disease
CT	Computerised tomography scan
ECG	Electrocardiogram
FBC	Full blood count
FEV_1	Forced expired volume produced in the first second
FEV_1/FVC	Ratio of FEV_1 to FVC, expressed as a percentage
FVC	Forced vital capacity: the total volume of air that can be exhaled from maximal inhalation to maximal exhalation
GMS	General medical science contract
GOLD	Global Initiative for Chronic Obstructive Lung Disease
GP	General practitioner
JVP	Jugular venous pressure
LTOT	Long-term oxygen therapy
MDI	Metered dose inhaler
NICE	National Institute for Clinical Excellence
NIV	Noninvasive ventilation
NRT	Nicotine replacement therapy
$PaCO_2$	Arterial carbon dioxide tension
PaO_2	Arterial oxygen tension
PCV	Packed cell volume
PEFR	Peck expiratory flow rate
PH	Hydrogen ion
RV	Residual lung volume
TLC	Total lung capacity
VC	Vital capacity (relaxed)

Chapter 1

The Background to COPD

THE PREVALENCE OF COPD

Chronic obstructive pulmonary disease (COPD) is one of the most common chronic diseases in the UK. Most nurses during their careers will have been involved at some point with caring for patients with COPD. It is a major cause of morbidity and mortality. Worldwide, COPD causes about 3 million deaths each year (Bourke, 2003). In the UK in 1999, the number of deaths from COPD had risen to 32 155 (British Thoracic Society, 2002b), which relates to one in 20 of all deaths (Halpin, 2001), making it the fifth leading cause of death (*Social Trends*, 1995). By the year 2020 COPD is expected to be third in the rankings for the global impact of disease scale (Murray and Lopez, 1996). In England and Wales mortality appears to be greater in urban areas, with a particularly strong association with lower social class and poverty and higher smoking rates in this group.

COPD is a condition predominately caused by smoking and is therefore a disease that is preventable. It is a chronic condition that is insidious, and may not be diagnosed until the disease is fairly advanced with loss of 50–60% of lung function. In the UK, approximately 900 000 people have been diagnosed with COPD. However, the scale of this condition is probably underestimated, with as many as a further 450 000 people not diagnosed or mistreated as asthmatic, indicating that the prevalence of COPD may be much higher. Men are more likely to be affected than women, with prevalence rates of 2% in men aged 45–65 and rising to 7% in men over 75 (Bellamy and Booker, 2003). However, the trend is likely to rise in females over the next few years with the increase of young teenage girls smoking.

The total annual cost of COPD alone to the National Health Service (NHS) is estimated at over £980 million per year. Around half of this is due to inpatient hospitalisation resulting from exacerbation of symptoms. Costs within primary care are also high. In primary care it is estimated that an average GP with a list size of 2000 patients will have 150 patients with COPD, resulting in frequent surgery consultations and home visits. On average, patients