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Rehabilitation for chronic lung disease: the challenge of implementation

Mike Morgan

As the population of the world enlarges, the burden of disease on our health services is increasing and at the same time changing in character. The spectrum of illness is becoming dominated by chronic rather than acute disease, and health services will need to adapt to the change. Chronic respiratory disease, particularly chronic obstructive pulmonary disease (COPD), will form a substantial component of this burden in future as the population ages and the global smoking epidemic remains unchecked.

The later stages of COPD are characterised by progressive dyspnoea, increasing disability and recurrent hospital admissions.

Unfortunately, the early stages of airway obstruction are not always apparent in the absence of screening spirometry and the development of exertional dyspnoea heralds the decline towards disability. Once significant disability and handicap are present further efforts to

improve airway function are often fruitless. In the absence of an early warning, many patients will only present to their general practitioner when the disease is already significantly advanced. By definition, the airflow obstruction will then be largely unresponsive to therapy though some symptomatic response can be achieved with bronchodilator drugs and inhaled corticosteroids.

Disease modification in COPD can be achieved to some extent by smoking cessation and more dramatically by transplantation or lung volume reduction surgery in a select few. Pulmonary rehabilitation offers the only widely applicable mechanism to improve individual quality of life and lessen the impact of disease on the community. To date, no country is able to provide this effective therapy on a scale necessary to make a significant impact and the reasons for this deserve to be explored.

Over the past decade a substantial amount of scientific evidence has accumulated to support the practice of rehabilitation for chronic lung disease.¹ This has been presented in the form of evidence-based guidelines and statements from specialist societies and is now incorporated into the core curriculum for specialist training in respiratory medicine.

The principles of pulmonary rehabilitation are based upon the delivery of a programme of physical exercise accompanied by disease education, psychological and social support. The main benefits of such programmes are the reduction in task associated dyspnoea, improved exercise capacity, increased quality of life and some health economic benefits. The latter include reduced length of hospital stay and fewer general practitioner call outs.^{2,3} Rehabilitation has not yet been shown to affect airway function or survival. The benefits appear to last for between one and three years compared to the expected decline in the untreated patient. To achieve these results a programme must contain supervised lower limb physical exercise of prescribed intensity.

A rehabilitation programme is generally delivered by a multi-disciplinary team of professionals and volunteers who may also have other duties in their institution. Most programmes in the United Kingdom are based on outpatient sessions at least twice weekly for a minimum of six weeks. Unsupervised home-based activity is also usually required between sessions. For practical reasons most programmes are based around hospitals but it is entirely feasible to deliver a programme from a convenient primary care setting and this practice is beginning to develop. Shorter duration inpatient hospital rehabilitation is also effective but is uneconomic in most circumstances. We have now reached a position where the fundamental effectiveness of the process of rehabilitation is now acknowledged although the processes continue to be refined.

It might be expected that a therapy that can be

effective in a common but otherwise untreatable chronic condition would be eagerly adopted. This might be particularly attractive to Government where reductions in length of hospital stay and cost savings of up to £500 million per annum might be possible.⁴

In spite of the prevalence of COPD, the provision of rehabilitation services for people with chronic lung diseases remains poor. A British Thoracic Society (BTS) survey in 1998 found that less than one third of respiratory specialists had referral access to a rehabilitation programme and only 15% of programmes had secure NHS funding.⁵ Things have improved a little since then but a recent survey by the British Lung Foundation (BLF) and the BTS still shows serious shortcomings in the provision of rehabilitation care for people with chronic lung disease.⁶ The proportion of specialists with access to rehabilitation has increased to 60% and there has been some improvement in the established funding. Nevertheless, there is still totally inadequate capacity for the demand. It is estimated that the current capacity could only accommodate about 6% of patients with COPD that have significant disability. Furthermore, at least one third of the programmes that currently exist are only able to provide an inadequate course of one session per week.

There are several reasons for this shortfall in provision. In the first instance physical therapies such as rehabilitation, unlike drug treatments, require the active participation and commitment of the patient. This change in attitude may be difficult for patients who have previously been passive in their approach. It is also difficult for prescribing doctors who do not have the scientific evidence for benefit of non-pharmacological treatment presented to them as assertively as that for pharmacological therapy. The choice of rehabilitation or pharmacological therapy is not a straightforward one. They are not simple alternatives and therapy in COPD should be multi-modality from the outset. Although no recent estimates of cost are available, outpatient

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rehabilitation is a relatively modest investment in comparison to inpatient admission. Lack of awareness of the benefits of rehabilitation remain a difficulty amongst the medical profession but less so with patients where the benefits are becoming the focus of a political campaign. Finally, the regrettable absence of a national service framework for lung disease means that there is little pressure for commissioners to provide these services. In future, the forthcoming NICE guidelines for COPD might generate some pressure to improve the situation.

Meanwhile, people with lung disease and their doctors should lobby to provide pulmonary rehabilitation as a local priority. ■

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The Cochrane Airways Group 2nd International Symposium 2003

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One of the ongoing challenges in primary care is to assess critically the evidence relating to new and existing treatment options for asthma and COPD. We are bombarded by information from drug company representatives and local medicines management teams, and also have to wade through weighty guidelines that arrive on our desks. Some of these have a strong evidence base (and the new BTS/Sign asthma guidelines are much more transparent about how they relate to the underlying evidence), but there is still a major challenge to try to keep up to date.

The Cochrane Airways Group international Symposium will be held in London on 6th and 7th November, 2003. This event represents a unique opportunity to explore the evidence base for some of the most important and widely used therapies in the management of respiratory disease affecting primary and secondary care.

As clinical trials are published they add to an increasing amount of information regarding treatment efficacy. Cochrane reviews aim to assimilate the information from clinical trials that address a focussed question. Evidence is assessed in terms of its quality, its implications for clinical practice and its unanswered questions, in a structured way.

Reviews have made important contributions to evidence gathering at local and national levels. The publication of the British Thoracic Society Guidelines in February 2003 marked an important occasion in the dissemination of Cochrane Systematic Reviews in respiratory medicine. The recommendations for many of the treatments listed in the guidelines were made on the basis of 31 Airways Group reviews. A similar contribution to the COPD guidelines due for publication in 2005 is anticipated.

The two-day event will explore three important areas

of Cochrane systematic reviews; the rationale of systematic reviews, the findings of reviews and their role in clinical guideline formulation. Plenary sessions will be devoted to explaining the methods used in reviews, from appropriate outcome measure selection, to identifying and interpreting findings for different patient populations. The aim of these sessions will be to equip listeners with a more extensive understanding of the systematic review process, and the potential for applying their findings in clinical practice.

Against this backdrop of review methodology, we will present the evidence base of the effects of interventions used in the day to day management of respiratory disease. These will include the prevention of exacerbations in COPD, the safety profile of different inhaled steroids compared, beta-agonist delivery in the treatment of acute asthma, anti-leukotriene agents and the role of self-management plans in the treatment of chronic asthma.

As the burden of respiratory care is falling increasingly on to Primary Care, information on therapeutic benefit and harm becomes increasingly important. With the advent of combination delivery of steroid and long-acting beta-agonists, and new drugs such as anti-leukotrienes, the amount of information generated is very hard to keep up with. However, systematic reviews have been conducted in these areas which have attempted to bring together as much reliable evidence as possible in order to better determine their role in the management of respiratory disease.

Don't come to the Symposium expecting simple answers to complex problems, but if you are interested in digging into the foundations upon which the new guidelines are based, and trying to work out how to put them into practice this could be of interest to you.

Turn to our News page (pp98) for details of how to register for this symposium ■

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