Disease-specific self-management programs in patients with advanced chronic obstructive pulmonary disease: a comprehensive and critical evaluation

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CRD summary
This review evaluated the benefits of disease-specific self-management programmes on health status and health resources in patients with advanced chronic obstructive pulmonary disease. The authors concluded that disease-specific self-management can improve patients' health status and reduce physician visits and hospital use. Given that the conduct and reporting of the review had some flaws, the conclusions should be interpreted with caution.

Authors' objectives
To evaluate the benefits of disease-specific self-management programmes on health status and health resources in patients with advanced chronic obstructive pulmonary disease (COPD).

Searching
The literature search comprised a search of MEDLINE from 1966 to March 2003 (the keywords were reported) and a review of the reference lists of the retrieved articles. Only English language articles that had been published in peer-reviewed journals were eligible for inclusion.

Study selection
Study designs of evaluations included in the review
Experimental (i.e. randomised controlled trials, RCTs) or quasi-experimental studies were eligible for the review.

Specific interventions included in the review
Studies of disease self-management programmes specific to the care of patients with COPD were eligible for inclusion. General health education programmes not directly related to lung disease were allowed as part of the 'standard care' control. All the self-management programmes in the included studies involved some teaching component: either provided to a group or individuals, and usually by an allied health professional. Programme material included booklet, audio- and/or videotapes. The programmes covered: teaching and training about the lung and COPD and respiratory medication; how to identify acute exacerbations; the use of relaxation techniques, controlled breathing and/or energy conservation, exercise or physical activities programmes; and education on smoking cessation, nutrition, oxygen and community services. Some studies included the effects of corticosteroids or antibacterials.

Participants included in the review
Studies that had a diagnosis of COPD as one of the inclusion criteria for patient enrolment were eligible for this review. The mean age of the patients in the included studies was above 55 years. All studies included both male and female patients. Where reported, the proportion of smokers ranged from 16 to 63%.

Outcomes assessed in the review
Studies that reported an outcome of health status or use of health resources were eligible for the review. All the included studies reported health status as an outcome, but the questionnaires used to derive this varied; the most commonly used was the Sickness Impact Profile. Six studies reported use of health resources: physician visits, emergency department visits or hospitalisation.

How were decisions on the relevance of primary studies made?
The author did not state how the papers were selected for thereview, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that they assessed validity.

**Data extraction**
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

**Methods of synthesis**
*How were the studies combined?*
The trials were discussed narratively, grouped by outcome measure (health status or use of health resources). The effect of self-management was expressed as an improvement compared with usual care, a decrease or deterioration compared with usual care, or no difference.

*How were differences between studies investigated?*
Difference between the study characteristics were displayed in tables and discussed in the text.

**Results of the review**
Ten trials (n=1,420) were included in the review, of which 9 were RCTs.

**Health status.**
In four trials, health status was measured in various ways and was significantly improved in patients in the self-management groups. The observed treatment effect led to a minimal difference in clinical improvement in two trials using the same respiratory questionnaire. Dyspnoea was improved in one study. In the two trials that assessed exercise capacity, there was no difference between self-management and usual care. Trials that assessed the patients’ knowledge of their condition and medication showed an improvement with self-management.

**Use of health resources.**
Physician visits were reduced in the self-management group in two of the four trials in which it was assessed. A reduction in emergency room visits was seen in one of two trials, while a reduction in hospital admissions was seen in one of five trials. The need for health care providers other than doctors was reduced in the one trial in which it was assessed.

**Authors' conclusions**
Disease-specific self-management can improve patients’ health status and reduce physician visits and hospital use.

**CRD commentary**
This review employed very broadly defined inclusion criteria. The search strategy was very limited, covering only one electronic database and only trials reported in English; it is probable that relevant published trials were missed. In addition, no attempt was made to locate unpublished studies. The review was conducted by a single author and the methods of the review were not reported. It is therefore possible that the review was susceptible to reviewer bias. Most of the included trials were RCTs; no attempt was made to assess the quality of these trials, or to differentiate between the findings of the RCTs and the one quasi-experimental trial. The details of the individual trials and their findings were presented and their results summarised briefly. Given these limitations and the ‘vote counting’ approach used to summarise the results of this review, findings must be interpreted with caution. Furthermore, the author's conclusions about the beneficial effects of self-management on use of health resources are not supported by the trial results, which together are equivocal.

**Implications of the review for practice and research**
Practice: The author stated that self-management programmes coupled with a supervised exercise programme may be more effective in improving dimensions of health status. Programmes combined with communication from a trained health professional could be integrated into standard medical practice.

Research: The author stated that much more research is needed on specific components of effective education for patients with COPD, methods to adjust self-management programmes to suit the needs of individual patients, and long-term maintenance strategies.

Bibliographic details

Indexing Status
Subject indexing assigned by CRD

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.