Pulmonary Rehabilitation Program in COPD

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There are progresses and get lot of foci on pharmacological treatment of chronic obstructive lung disease (COPD) in the past years to improve the pulmonary function, acute exacerbations, and even quality of life. The evidence for improvement in exercise endurance, dyspnea, functional capacity, and quality of life is stronger for rehabilitation than for almost any other therapy in COPD, but it is always being missed in the clinical management especially in Asia countries.

There have been numerous scientific advances in understanding of the systemic effects of chronic respiratory disease. There are also changes of the process of pulmonary rehabilitation. Evidence-based support for pulmonary rehabilitation in the management of patients with chronic respiratory disease has grown tremendously, and this comprehensive intervention has been clearly demonstrated to reduce dyspnea, increase exercise performance, and improve health-related quality of life (HRQL). Furthermore, an emerging literature is beginning to reveal its effectiveness in reducing health care costs.

Pulmonary rehabilitation programs involve patient assessment, exercise training, education, nutritional intervention, and psychosocial support. Pulmonary rehabilitation should be considered for all patients with chronic respiratory disease who have persistent symptoms, limited activity, and/or are unable to adjust to illness despite otherwise optimal medical management. Exercise training, widely regarded as the cornerstone of pulmonary rehabilitation. Before exercise training, clinicians must establish optimal medical treatment. The patient assessment may also include a maximal cardiopulmonary exercise test to assess the safety of exercise, the factors contributing to exercise limitation, and the exercise prescription. The exercise program should include at least three times a week with regular supervision of exercise sessions. The longer programs yield larger and more endurable training effects. Although low-intensity training results in improvements in symptoms, HRQL, and some aspects of performance in activities of daily living, greater physiologic training effects occur at higher intensity. Training programs, in general, should attempt to achieve maximal physiologic training effects. The low-intensity
targets may be more important for long-term adherence and health benefits for a wider population.

The cardinal symptoms which limit exercise in most patients are, ventilatory limitation, gas exchange abnormalities, and skeletal or respiratory muscle dysfunction. Through the understanding of these, some additional strategies may improve the exercise performance. It include: oxygen supplement, NIPPV, bronchodilator, and respiratory muscle training. The self management education, nutrition consultation, and psyco-social supportive are also important components of pulmonary rehabilitation program.

Good results can be obtained from simple programs, but good audit and quality controlled program can provide greater flexibility in physical training, research opportunities, and the ability to deal with the more complex patients. More research is needed to optimize the effectiveness of pulmonary rehabilitation, and to evaluate its effect on survival. The pulmonary rehabilitation should be made available to all patients who need it in the future.