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A Community Model for Exercise Prescription for Patients with Chronic Obstructive Pulmonary Disease and Congestive Heart Failure

Hui E, Woo J.

Division of Geriatrics, Department of Medicine and Therapeutics, The Chinese University of Hong Kong.

Introduction:

Chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF) pose a huge burden on health care expenditure. There is an over-emphasis on a pharmacological approach towards the management of these diseases. Although exercise prescription has been shown to improve physical performance, psychosocial well being, and reduce hospital service utilization, such interventions have not been incorporated into current health services.

Purpose of the Project:

This pilot study aims to test the feasibility of continuing exercise programmes for patients with COPD or CHF that incorporate elements of peer support, health education, and promotion of self-motivation and compliance, to be carried out in community centres by health professionals or trained non-professionals.

Material & Methods:

Study Design - Quasi-experimental with measurements before and after intervention.

Subjects - 44 COPD and 37 congestive heart failure CHF cases, with ≥ 1 hospital admission(s) in the preceding 12 months.

Setting - Community elderly centres.

Intervention – 12 weekly sessions with three core components: educational talk, peer group support and exercise training, including a home exercise prescription.

Outcome measures -

COPD: Lung function tests, 6 minute walk test (6MWT), General Health Questionnaire (GHQ), St. George's Respiratory Symptom Questionnaire (SGRQ), COPD knowledge, programme evaluation using questionnaires and group discussions.

CHF: 6MWT, muscle strength, Hospital Anxiety & Depression Scale (HADS), Medical Outcome Study Social Support Survey (MOSSS) Chronic Heart Failure Questionnaire (CHFQ) CHF knowledge test, programme evaluation (as above).

Results:

75% of COPD and 87% of CHF patients completed the course. Home exercise compliance was over 70%.

COPD: Statistically significant improvement was noted in all domains of the GHQ, SGRQ, and knowledge test, but not the physical measurements. Subjects felt the programme helped them cope with their condition through empowerment and mutual support.

CHF: Significant improvement was noted in all psychosocial and symptom domains (HADS, MOSSS, CHFQ), knowledge test, as well as physical measurements (grip strength and 6 metre walk test). Results of programme evaluation were similar to the COPD group.

Conclusions:

A group community intervention programme for COPD and CHF patients is feasible and acceptable, with positive psychosocial, symptomatic, and physical outcomes. Such a model could be further developed, and cost-effectiveness evaluated as a model of chronic disease management in the community.