

A Study of Patients in a Community-Based Pulmonary Rehabilitation Program

Introduction: Improvements in the Behavioral, Clinical, and Health Domains achieved by patients in multifactorial pulmonary rehabilitation improves their clinical status, quality of life (QOL), and reduces health care system dependence [Economic Domain].

Purpose: To determine the influence of multifactorial pulmonary rehabilitation [PR] on Behavioral, Clinical, Economic, Health, and Service Domains in pulmonary patients.

Design: This is a study of chronic obstructive pulmonary disease patients participating in a multifactorial 12-week pulmonary rehabilitation program.

Methods: Twenty-three [23] patients [7 men, 16 women (68%)], including 7 [30%] having comorbid diabetes mellitus, mean age 60 ± 9 years served as subjects. They were enrolled in a multifactorial pulmonary rehabilitation program [PRP] at the Marshall University Diabetes Exercise and Cardiopulmonary Rehabilitation Center. Interventions included an exercise program, smoke cessation, nutritional counseling, and educational sessions. Patients were risk stratified with a profile that included their history, physical, exercise test, pulmonary function test, lipid profile, CBC, anthropometric measures, and risk factors. Selected measures were repeated at 12 weeks.

Results: Significant improvements were observed in the Behavioral Domain for the Knowledge Test and Beck Depression Inventory [$P < .001$], dietary and medication compliance [$P < .01$], and exercise activity [$P < .001$]. Clinical Domain variables improving were the Duke Activity Status Index [$P < .05$], 6 Minute Distance Walk [6MDW ($P < .001$)], diastolic blood pressure [Resting ($P < .05$) and Recovery ($P < .01$) 6MDW], SaO₂ [6MDW Peak ($P < .01$)], oxygen flow [Resting ($P < .05$)], rating of perceived dyspnea [6MDW Peak ($P < .01$) and Recovery ($P < .01$)]. Post measurements for Economic Domain variables significantly surpassing baseline values were ER Visits [$P < .01$], Hospital Admissions [$P < .01$], and MD Visits [$P < .001$]. PCS-36 and MCS-36 Health Domain survey responses reflected improved perceptions of QOL at the $P < .05$ level. Satisfaction ratings for Facility/Administration, Exercise Program, Education Program, Counseling Program, and Overall Satisfaction variables in the Service Domain were 4.9.

Conclusions: Multifactorial PR significantly impacted the Behavioral, Clinical, Economic, and Health Domains. Participation in a multifactorial PRP is reflected in reduced dependence on the healthcare system and includes significant reductions in ER visits, hospital admissions, and visits to physicians. Service Domain ratings validated patient commitment to PR.