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Comparison of Unsupervised Home-Based Pulmonary Rehabilitation Versus Supervised Hospital Outpatient Pulmonary Rehabilitation in Patients with Chronic Obstructive Pulmonary Disease

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Objectives: Pulmonary rehabilitation (PR) is an effective approach in patients with chronic obstructive pulmonary disease (COPD) but it is still underutilized. The aim of this study was to compare unsupervised home-based PR with hospital outpatient program in terms of exercise capacity, quality of life, dyspnea sensation, pulmonary functions, body composition, and psychological status in patients with COPD.

Methods: One hundred twenty-seven patients were selected retrospectively. The patients were allocated into 3 groups: group A (n=67, lost to follow-up), group B (n=60) unsupervised home PR, and group C (n=120) supervised outpatient PR. Baseline parameters were compared between groups A and B. Measurements before and after PR were compared in groups B and C. The changes in measurements were compared between groups B and C.

Results: Although baseline parameters of groups A and B were similar, 53% of the 127 patients were lost to follow-up. After the PR program, scores were improved in groups B and C regarding the ISWT ($p<0.05$), SGRQ ($p<0.001$), CRQ ($p<0.001$), MRC ($p<0.05$), anxiety ($p<0.001$), and depression ($p<0.001$), and the ESWT was increased in group C ($p<0.001$). Δ ISWT ($p=0.001$), Δ ESWT ($p=0.029$), Δ SGRQ ($p<0.001$), Δ CRQ ($p<0.001$), Δ MRC ($p=0.023$), Δ anxiety ($p<0.001$) and Δ depression ($p=0.001$) scores were statistically different between groups B and C, in favor of group C.

Conclusion: Unsupervised home-based PR was found to be effective in terms of exercise capacity, quality of life, dyspnea, psychological status, but less than supervised hospital-based programs. Further studies are needed to identify the modality and features of home-based PR.

Keywords: COPD, exercise capacity, home based-PR