

comparison of the effects of treadmill and ergocycle exercise on the functional capacity and quality of patients with chronic obstructive pulmonary disease

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Abstrak

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Physical exercises are hoped to improve functional capacity and quality of life of patients with chronic obstructive pulmonary disease (COPD). This study is aimed to assess the differences between treadmill and ergocycle exercise on changes in functional capacity and quality of life in patients with stable COPD.

This is an experimental study with complete randomization and repeated pre and post-intervention observation. The study was conducted on 44 subjects with COPD who were presented at Persahabatan Hospital, Medical Rehabilitation Clinic, consisting of 22 subjects undergoing ergocycle exercise and 22 subjects undergoing treadmill exercise test. Functional capacity was assessed by using the 6 minutes walking test (6 MWT) performed at week I, V and IX. Quality of life was measured using the St. George Respiratory Questionnaire (SGRQ) at week I and IX. Training program was conducted for 8 weeks with exercise dosage based on the results of exercise test on week I. Treadmill and ergocycle exercise produce significant improvement in both the 6 MWT and SGRQ test since week I to IX. But in comparison, treadmill exercise improves 6 MWT distance better than ergocycle consistently at week I-V, V-IX and I-IX ($p < 0.001$). For the SGRQ score, both exercises did not differ significantly.

Conclusion: Treadmill exercise is associated with significantly better improvement in functional capacity compared to ergocycle exercise in stable COPD subjects. Concerning quality of life, both exercises gave an equivalent improvement in stable COPD subjects.