

題名:Domiciliary Positive Expiratory Pressure on Pulmonary Function and Exercise Capacity in Patients with Chronic Obstructive Pulmonary Disease

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摘要:Background/Purpose: This study assessed how positive expiratory pressure (PEP) affected pulmonary function, functional capacity, and subjective cough difficulty in individuals with chronic obstructive pulmonary diseases (COPD). Methods: This was a prospective, randomized, controlled study. Subjects were recruited from an outpatient department at a university hospital. Thirty-two patients with COPD were allocated to either PEP+FET (forced expiratory technique) group (n=16) or FET only group (n=16). Subjects in PEP+FET and FET groups were in a clinically stable condition before and during the study. Subjects in the PEP+FET group received PEP breathing using a mouth adjunct to FET, and the FET group was administered FET for 4 weeks only. Patients received weekly follow-up during the study period. Pulmonary function, 6-minute walk tests, and subjective cough difficulty scores were measured before and after the 4-week interventions. Results: Subjects in the PEP+FET group had a significantly increased diffusing capacity (DLCO) compared to preintervention ( $p<0.05$ ) and after intervention in the FET group ( $p<0.05$ ). DLCO significantly increased in the PEP+FET group from  $18.0\pm 7.3$  to  $20.1\pm 7.2$  mL/min/mmHg. The 6-minute walking distance (6MWD) also increased significantly from  $516.8\pm 94.1$  to  $570.6\pm 60.4$  m in the PEP+FET group ( $p<0.001$ ) after intervention, compared to that for the FET group ( $p<0.05$ ). Additionally, the PEP+FET group had significantly lower cough difficulty scores compared to those at baseline and in the FET group. Conclusion:

Four-week PEP therapy as an adjunct to FET further enhanced DLCO and 6MWD, and reduced cough difficulty compared to FET only in COPD patients with mucus hypersecretion.