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Title: Two-years of a community maintenance follow-up program in patients with COPD

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Body: Introduction: Benefits of short-term outpatient rehabilitation programs (RP) have been showed in patients with COPD that decline gradually over one year after discharge. Moreover, the capacity of maintenance follow-up programs to preserve the benefits of pulmonary rehabilitation programs is controversial. Therefore, the objective of this study was to examine the efficacy of a two year, supervised, community maintenance follow-up program to maintain the benefits of an initial 12-week outpatient RP. Methods: Eight patients (moderate to severe) COPD men (GOLD), dyspnea 2-3 (MMRC) were included. All patients performed a two years, supervised, community maintenance program (CMP)(twice a week) following a 12-week outpatient rehabilitation program (twice a week). Maximal dynamic resistance (1RM) of the upper limb (chest press and dorsal) and lower limb (leg press and leg extension), and peak power output at 70% of 1RM in leg press were measured. Analysis of variance with repeated measures was used for statistical analysis. Results: Initial data from the RP were used as a baseline for all outcomes. 1RM in leg press increased (P <0.001) by 20% in RP and 22% in CMP from baseline. 1RM in chest press increased (P <0.001) by 32% in RP and 45% in CMP. 1RM in knee extension and dorsal increased (P <0.001) by 36 and 35% in RP and 38 and 35% in CMP, respectively. Power output of the lower limb at 70% of 1RM increased by 33% in RP and 30% in CMP (from 555 ± 108 to 738 ± 312 to 720 ± 258 w, P <0.05) from baseline. Conclusions: A low volume, supervised, CMP is able to maintain and improve the benefits of a short-term RP in COPD patients. Supported by Ministry of education of Spain and Health Department of Navarre.