Abstract

Objectives: To study the relationship between the level of physical activity in daily life and disease severity assessed by the BODE index in patients with chronic obstructive pulmonary disease (COPD). Methods: Sixty-seven patients with COPD (36 men) with forced expiratory volume in the first second (FEV1) of 39 (27-47)% predicted and age of 66 (61-72) years old were evaluated by spirometry, dyspnea levels (measured by the Medical Research Council scale, MRC) and by the 6-minute walking test (6MWT). The BODE index was calculated based on the body mass index (weight/height²), FEV1, MRC and 6MWT, and then the patients were divided in four quartiles according to their scores (Quartile I: 0 to 2 points, n=15; Quartile II: 3 to 4 points, n=20; Quartile III: 5 to 6 points, n=23; Quartile IV: 7 to 10 points, n=9). Two activity monitors (DynaPort® and SenseWear®) were used to evaluate the level of physical activity in daily life. The Kruskal-Wallis test (Dunns’s post-hoc test), the Mann-Whitney test and the Spearman Correlation Coefficient were used for statistical analysis. Results: There were modest correlation between the BODE index and the time spent walking per day, the total daily energy expenditure and the time spent in moderate and vigorous activities per day (-0.32 < r < -0.47; p<0.01 for all variables). When comparing the pooled quartiles I+II with III+IV, there were significant differences between the time spent walking per day, the total daily energy expenditure and the time spent in moderate activities per day (p<0.05). Conclusion: The level of physical activity in daily life has a modest correlation with the classification of COPD severity assessed by the BODE index, reflecting only differences between patients with classified as mild-moderate and severe-very severe COPD.

Keywords
COPD, BODE index, physical activity in daily life.