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Title: Determinants of fatigue in patients with bronchial asthma

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Body: Purpose: Fatigue is a common symptom for chronic respiratory disease. The aim of this study was to investigate the determinants of fatigue in patients with bronchial asthma. Methods: Fifty-two patients with bronchial asthma participated in this study. Pulmonary function testing was performed. Respiratory muscle strength (MIP and MEP) and hand grip strength were measured. Dyspnea perception (Medical Research Council dyspnea scale, MMRC), general and disease specific quality of life (Nottingham Health Profile, NHP, and Asthma Quality of Life Questionnaire, AQLQ, respectively), anxiety (State Trait Anxiety Inventory, STAI), depression (Beck Depression Inventory, BDI), stress management (Health Promotion Scale, HPS) were evaluated. Exercise capacity was assessed using six-minute walk test. Fatigue perception was determined using the Fatigue Severity Scale (FSS). Results: The FSS score was significantly related with FEV₁ (r=-0.30), MEP (r=-0.42), %6MWT distance (r=-0.32), dominant hand grip strength (r=-0.33), MMRC (r=0.32), NHP-energy level (r=0.56), NHP-pain (r=0.31), NHP-emotional reactions (r=0.34), NHP-physical mobility (r=0.33), NHP-social isolation (r=0.31) and NHP-total (r=0.51) scores, AQLQ- activity (r=-0.44) and AQLQ-environmental (r=-0.29) scores, BDI (r=0.37), STAI- trait anxiety (r=0.29), and HPS-stress management (r=-0.40) scores (p<0.05). The MEP (r²=0.087), NHP-energy level (r²=0.353), HPS-stress management (r²=0.102) and BDI scores (r²=0.044) explained 59% of the variance in the FSS score (r²=0.586, F_(1,42)=4.91, p<0.05). Conclusion: Expiratory muscle strength, quality of life, depression, and stress management ability are the determinants of fatigue perception in bronchial asthma.