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Relationship between fatigue, physical activity and health-related factors in COPD

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Abstract

Fatigue is highly prevalent in COPD and may be associated with reduced physical activity (PA) and poor outcomes. This study explored the relationship between fatigue, objectively measured PA and health-related factors in people with COPD.

Fatigue was assessed with the Checklist of Individual Strength (CIS20) and CIS20-Subjective Fatigue (CIS20-SF) and PA with Actigraph GT3X monitors (moderate-to-vigorous PA, MVPA; total PA; steps/day). Dyspnoea (modified Medical Research Council, mMRC), exercise tolerance (6-min walk distance, 6MWD), lung function (spirometry) and GOLD A-D were collected. Spearman (ρ) and Pearson (r) correlations and multiple regressions were performed. Variables entered the model if correlation ≥ 0.2 .

54 patients participated (68 ± 7 years; 82% men) and 69% reported fatigue (CIS20-SF ≥ 27). Fatigue was significantly correlated with MVPA, steps/day, mMRC, 6MWD, GOLD A-D and FEV_{1pp} (Table 1). In regression models for CIS20 ($p = .001$; $r^2 = .61$) and CIS20-SF ($p = .003$; $r^2 = .56$), dyspnoea was the only significant variable.

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		correlation (p)	correlation (p)
Total PA ^a	138 [97-176]	-.17 (.232)	-.12 (.366)
MVPA ^{a, c}	17 [8-38]	-.32 (.018)	-.35 (.008)
Steps ^a	3869 [2464-6157]	-.30 (.026)	-.31 (.019)
FEV ₁ pp ^{b, c}	47±19	-.41 (.002)	-.29 (.030)
GOLD A-D ^{a, c}	A=23 B=13 C=5 D=11	.50 (<.001)	.42 (.001)
mMRC ^{a, c}	1 [1-2]	.51 (<.001)	.45 (.001)
6MWD ^{b, c}	419±94	-.47 (<.001)	-.45 (<.001)

^ap; ^br; ^cVariables entering the regression models; ^dMedian[Q1-Q3], mean±SD or n.

People with higher scores of fatigue present lower PA levels, although the relationship is weak. Dyspnoea appears to have the largest influence on fatigue.

COPD Physical activity Physiotherapy care

Footnotes

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