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Title: Which is the variable of physical activity monitoring that better correlates with functional exercise capacity in COPD?

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Body: Background: Time spent walking (WT) in daily life correlates moderately with 6-minute walking test (6MWT) in chronic obstructive pulmonary disease (COPD). Nevertheless, time spent in physical activities of at least moderate intensity (TPA>mod) has been indicated as a more appropriate variable to reflect the level of physical activity in daily life (PADL) since it includes the intensity in addition to the time spent in activity. However, it is unknown whether different variables concerning PADL correlate differently with the 6MWT. Aim: To identify which PADL variable better correlates with functional exercise capacity in patients with COPD. Methods: Ninety eight patients with COPD (62 male, 66±8 years, BMI: 26±6 Kg.m⁻², FEV1: 40 [27-53]%pred) entering an exercise training program had their PADL level assessed by 2 activity monitors (Dynaport®, McRoberts and Sensewear®, BodyMedia) worn simultaneously during 2 weekdays, 12 hours/day since waking up. The analyzed variables were WT and TPA>mod (average of the 2 assessment days). Additionally, 6MWT and spirometry were performed. Results: WT was 62 [37-92]min/day, TPA>mod was 18 [5-43]min/day and patients walked 439 [390-510]m or 74 [66-84]%pred in the 6MWT. Correlation of 6MWT in absolute values was higher with WT (r=0.59) than with TPA>mod (r=0.47) (p≤0.0001 for both), whereas correlation of 6MWT in % of predicted values was equally weak with WT and TPA>mod (r=0.37 and 0.39, respectively). Conclusions: Although moderately, time spent walking in daily life correlates better with functional exercise capacity than the time spent in physical activities of at least moderate intensity.