Association of physical activity and prognostic parameters in elderly patients with heart failure.

Abstract:

Assessment of habitual physical activity (PA) in patients with heart failure. This study included 50 patients with heart failure (61.9 ± 4.0 yr). Seven days of PA were assessed by questionnaire (AQ), pedometer, and accelerometer and correlated with prognostic markers including VO\(_{2}\)peak, percent left-ventricular ejection fraction, N-terminal pro-B-type natriuretic peptide, and New York Heart Association (NYHA) functional class. Accelerometry showed a stronger correlation with VO\(_{2}\)peak and NYHA class (R = .73 and R = -.68; p < .001) than AQ (R = .58 and R = -.65; p < .001) or pedometer (R = .52 and R = -.50; p < .001). In the multivariable regression model accelerometry was the only consistent independent predictor of VO\(_{2}\)peak (p = .002). Moreover, when its accuracy of prediction was tested, 59% of NYHA I and 95% of NYHA III patients were correctly classified into their assigned NYHA classes based on their accelerometer activity. PA assessed by accelerometry is significantly associated with exercise capacity in patients with heart failure and is predictive of disease severity. The data suggests that PA monitoring can aid in evaluating clinical status.