Habitual Physical Activity Levels in Cardiac Rehabilitation Patients: Does The Current Standard Programme Facilitate an Increase in Activity Levels?

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Purpose

Increased physical activity (PA) is associated with reduced mortality from diseases such as coronary artery disease (CAD). Paradoxically, CAD patients enrolled into exercise-based cardiac rehabilitation (CR) programmes fail to meet the recommended weekly PA levels.

The purpose of the study was to objectively measure PA levels in CR patients, both habitually and within structured CR sessions, to get a better understanding of the impact of the CR on habitual PA levels.

Methods

- Sixteen male and four female CR patients (63 ± 12 years of age) completed this study. Patients with valve replacement and heart failure were excluded.
- PA levels were assessed for 7 days by waist-worn tri-axial accelerometry (Actigraph GT3x+) during weeks one and six of the CR programme.
- The statistical analysis involved paired samples t-test and Wilcoxon signed rank tests.

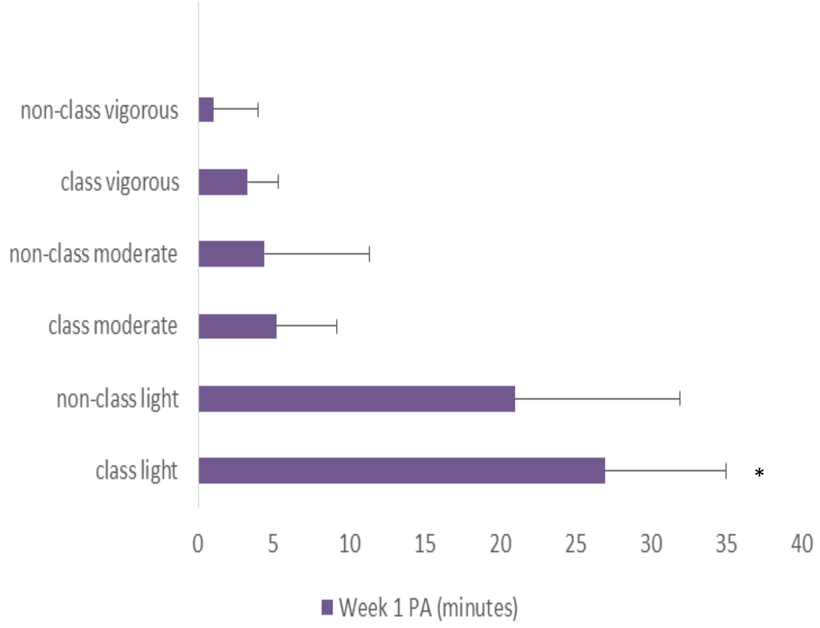

Figure 1a. Habitual and in-class PA levels in week one of the CR programme. * indicates significantly different than non-class time in PA levels.

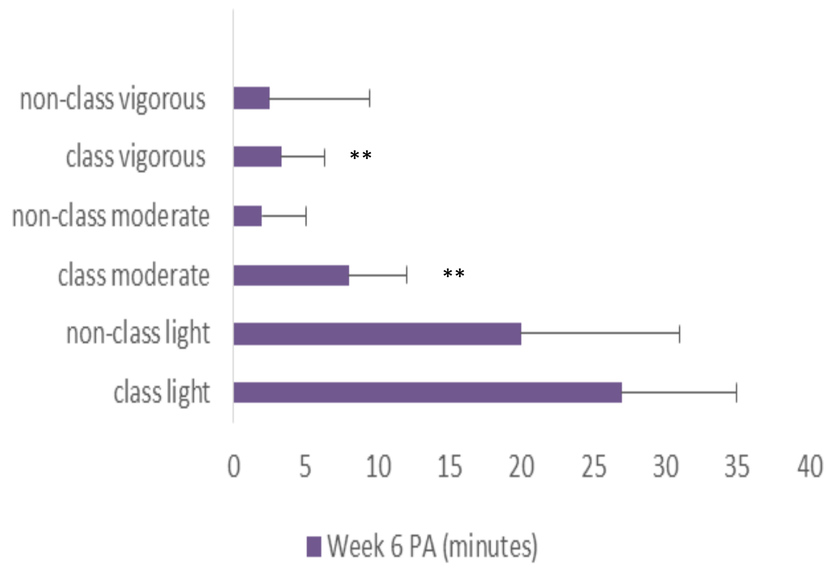

Figure 1b. Habitual and in-class PA levels in week six of the CR programme. ** indicates significantly different than PA levels during class time at week one.

Results

- In week one, patients performed significantly **more light PA in the class** compared to light PA **outside the class** (20±11 versus 26±8 minutes, *p=0.043*) (Figure 1a).
- During week six, patients **significantly increased the time** spent in moderate and vigorous physical activity (**MVPA**) **during the CR sessions** when compared to week one (6.3±6 versus 11±7 minutes, *p=<0.05*) (Figure 1b, 2a and 2b.)
- **No significant changes** were observed **in PA levels outside the CR** class during week six.

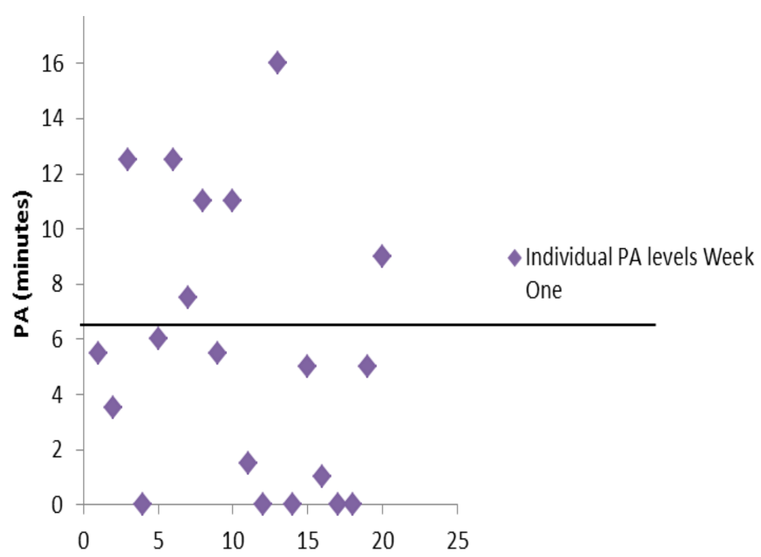

Figure 2a. Individual MVPA levels during CR classes in week one of the CR programme. Black line indicates the average.

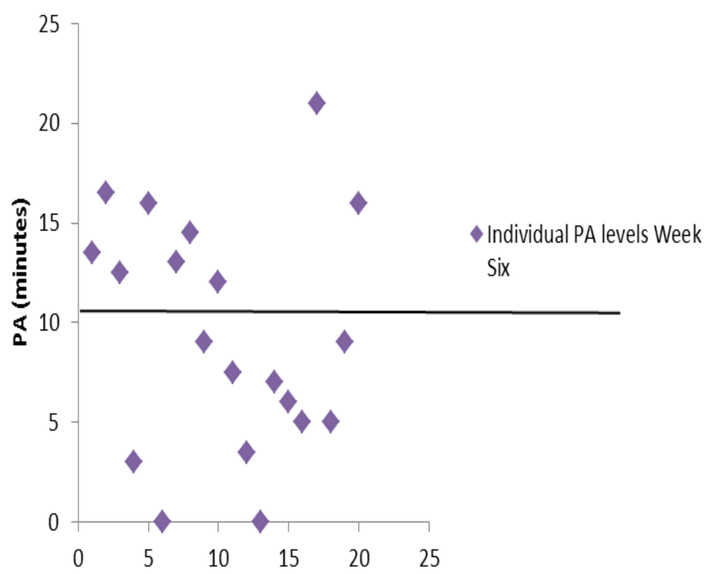

Figure 2b. Individual MVPA levels during CR classes in week six of the CR programme. Black line indicates the average.

Conclusions

- In week six of the CR programme, **an increase of 86% in MVPA** levels was noted in formal CR sessions compared to week one . However, this was not accompanied by an increase in habitual PA levels.
- Future exercise-based CR programmes should place emphasis on increasing habitual PA levels in order for patients to meet the recommended PA levels.

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