Education Attainment and Achieved Treadmill Workload: Differences in Cardiac Rehabilitation Participants

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Introduction

- Education attainment can be a powerful predictor of health-related actions such as smoking rates, obesity, cardiovascular health, and physical activity.1
- Mortality risk continues to decrease with an increase in MET level.1
- Independent of education level, individuals want to improve health behaviors, but carrying out these intentions can be difficult.2
- Information processing, in addition to knowledge exposure, may be crucial in explaining educational differences in behaviors.2
- Purpose Statement: The purpose of this study was to compare METs achieved between CG and NCG attending ≥12 sessions in a Phase II CR program by age, gender, and attended sessions.

Materials and Methods

- Design: Retrospective comparative
- Setting: Hospital-based nationally certified CR program
- Sample: 182 Phase II CR participants completing ≥12 sessions between November 2012 and September 2015
- Procedure:
  - A Patient Education Assessment Tool, a 9-item educational level questionnaire, was administered at initial CR session.
  - Medical record review collected gender, age, METs, and education.
  - Education was compared to program end METs by age, gender and number of sessions.
- Statistical Plan:
  - t-test
  - Ordinary Least Squares Regression

Education Background:
- Eighth grade or less
- Some high school
- High school graduate
- Technical training
- Some college/university
- College/university graduate
- Post-grad study
- Prefer not to state
- Unknown

Figure 1: Education Assessment Tool

Abstract

The study aimed to compare age, gender, attended sessions, and metabolic equivalencies (METs) of college graduate (CG) and non-college graduate (NCG) Phase II Cardiac Rehabilitation (CR) participants. A retrospective comparative design compared 182 participants completing ≥12 sessions between November 2012 and September 2015 at a hospital-based nationally certified CR program located in a western mountain region. Preliminary data suggests CGs achieve higher METs than NCGs.

Results

- Demographics
  - 143 males (mean age 64.7 years) and 39 females (mean age 70.7 years) completing an average of 26 CR sessions. were included in the analysis.
  - 114 participants CG (mean age 65.8 years) and 68 NCG (mean age 66.2 years).
- Education
  - CGs achieved significantly higher mean METs than NCGs (6.9 vs 6.1 mean METs; t = −2.472; p = 0.0145).
- Gender and Age
  - There is a significant interaction between age and education adjusting for gender.
  - In the adjusted analysis, METs significantly varied with education and age (F = 13.88, p < 0.001).
  - MET levels were significantly lower in NCGs aged ≥65 years (t = −2.41, p = 0.017). This finding is significant for men only (t = 3.03, p = 0.003).
- METs and Age
  - Significant associations existed between mean METs and age.
  - For every one year increase in age, percent of average METs completed declines 11%, holding education and gender constant (p = 0.001 t = −8.43).
- Session Attendance
  - There was no significant difference between CGs and NCGs in session attendance (t = −0.1209; p = 0.903).

Discussion and Conclusions

- CGs may achieve higher METs than NCGs.
- Exercise should be custom-designed to meet each participant’s individual abilities and needs.4
- Other factors may have an effect on MET level achievement such as return to work timeframe, personal commitments, occupational requirements, prior injuries, and exercise history.
- Clinical Implication: Knowledge of education differences can help CR staff develop strategies to meet needs of participants during rehabilitation.
- Research Implication: What other social and economic variables effect MET levels and session attendance?

Literature Cited


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