D3.2: Comparison of fitness levels and markers of obesity in apparently healthy college age students

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Presentation Preference: Research Abstract

Abstract Categories:
Research Interest Groups (RIGs): Health Promotion/Self-care
Thematic Areas: Adult Health

Abstract:
Introduction: Obesity has reached epidemic proportions and is increasing at an alarming rate. Excess body weight (BW) is linked to acute and chronic diseases and disorders, which increase
morbidity and mortality. The purpose of this study was to explore the relationship between fitness level, C-reactive protein (C-rp), and body composition (BC) in college-age students. Research Question: Is there a difference in C-rp levels and body composition for individuals with a high compared to a low fitness level, for college age individuals?

Method(s): Forty participants (20 obese, 21 non-obese) completed a submaximal (%85 age-predicted maximal heart rate) cycle ergometer test to determine fitness level. Percent body fat (%BF) was determined via sum of skinfold and bioimpedence measures. Also, Body weight (BW), Body Mass Index (BMI), and height were measured. A venous blood sample was collected and analyzed for Cr-p.

Results: The sample included 66% Caucasian, 32% Black and 2% Hispanic, with 80% female and 20% male. All subjects were divided into either a low fitness category (< 21.6 ml/kg/min) or high fitness category (≥ 21.6 ml/kg/min) for statistical analysis. Independent t-tests revealed the lower fitness level group had greater BW (90.3 vs. 66.9 kg; p < 0.000), BMI (32.5 vs. 23.9; p < 0.000), %BF (41.0 vs. 27.1; p < 0.000), and higher Cr-p levels (4.6 vs. 1.5 mg/L; p = 0.013).

Discussion & Conclusions: The preliminary findings indicate college students with lower fitness levels may be at a higher risk for obesity and obesity related diseases and disorders. Elevated Cr-p levels have been linked to obesity related co-morbidities. Additional study is planned with a larger cohort to further analyze these variables. Research to determine interventions to enhance exercise participation and improve fitness levels in college age students is needed.

Abstract History:
This abstract has been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.
Southeast American College of Sports Medicine regional conference 2008 Poster Presentation

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