2103 Board #22 May 28 2:00 PM - 3:30 PM

ECG CHARACTERISTICS IN SENIORS PARTICIPATING IN A STRUCTURED FITNESS PROGRAM: A PILOT STUDY

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PURPOSE: Undergraduate exercise science students can benefit from curriculum which includes authentic, hands-on opportunities for learning. A 12-lead electrocardiograph (ECG) can serve as both as a teaching and screening tool to assess cardiac abnormalities in seniors (over age 65) prior to beginning an exercise program. The purpose of this pilot study was to evaluate the ECG characteristics of older adults prior to participation in a twice-weekly supervised strength training program.
METHODS: Thirty seniors (Males = 10; Females = 20; Age =72 ± 7.6yrs) completed cardiovascular screening with resting 12-lead ECG analysis prior to program participation. An exercise physiologist reviewed all ECG results and any identified abnormalities were referred to a cardiologist. Gender, ECG abnormalities, and anthropometrics were compared using a mixed model ANOVA. Chi-square analysis was used to test for differences in the frequency of ECG findings across gender.
RESULTS: Thirty seniors (Males = 10; Females = 20; Age =72 ± 7.6yrs) completed cardiovascular screening with resting 12-lead ECG analysis prior to program participation. An exercise physiologist reviewed all ECG results and any identified abnormalities were referred to a cardiologist. Gender, ECG abnormalities, and anthropometrics were compared using a mixed model ANOVA. Chi-square analysis was used to test for differences in the frequency of ECG findings across gender
CONCLUSIONS: A pre-exercise ECG can be a useful teaching and screening tool for students who are preparing to supervise older adults in a structured strength training program. ECG results can be used to adjust training variables (type, duration, and intensity) accordingly for each individual senior participant.

D-59 Free Communication/Poster - Special Populations

Thursday, May 28, 2020, 2:00 PM - 4:30 PM
Room: CC-Exhibit Hall

2104 Board #23 May 28 2:00 PM - 3:30 PM

Chatting While Cycling Can Enhance "Positive Affect" In Patients With Cardiovascular Disease

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PURPOSE: Previous studies demonstrated that aerobic exercise activates the frontal area of the left hemisphere, which stimulates optimistic feelings. We hypothesized that having fun chatting with friends while cycling (Chatting While Cycling: CWC) would enhance the benefits of exercise, and this would particularly benefit patients with cardiovascular diseases who find exercising a strenuous activity. Therefore, the aim of present study was to analyze the differences in the positive affect of patients during two aerobics routines: CWC and cycling alone.
METHODS: The sample comprised eight patients with cardiovascular disease and nine healthy gender-matched volunteers that performed two aerobics routines. To determine the positive affect, we performed electroencephalography (EEG; NegPos, Neuro Sky) and applied the following formula (Right Alpha 10 sec Avg - Left Alpha 10 sec Avg) / (Right Alpha 10 sec Avg + Left Alpha 10 sec Avg). In addition, the subjective optimistic feelings during exercise was measured using a questionnaire. Each routine involved the same exercises and duration (15 minutes). The intensity was controlled through a 60% peak VO_2 in the cardiopulmonary exercise test. The mean values of EEG data were calculated and used for analysis in the paired *t* test (level of significance, $p < .05$). The relationship between positive affect and subjective optimistic feelings was analyzed using Pearson's coefficient of correlation.
RESULTS: In patients with cardiovascular disease, the positive affect during exercise was significantly higher for CWC than cycling alone (CWC 46.9 vs. cycling alone -5.9, $p = 0.014$). On the other hand, healthy volunteers exhibited no such routine-dependent differences. Furthermore, positive affect was associated with increased subjective optimistic feelings during CWC (r = 0.839, $p = 0.005$).
CONCLUSIONS: Aerobic exercise while chatting with friends is recommended for positive affect in cardiac rehabilitation settings.
The authors have no conflicts of interest.

2105 Board #24 May 28 2:00 PM - 3:30 PM

Technological Advancements Fail To Elicit Improvements In CVD Detection

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(No relationships reported)

Modern and more sophisticated body composition instruments may offer superior determination of cardiovascular risk compared to older, more simple assessments such as body mass index (BMI).
PURPOSE: To determine whether the Fit3D-calculated measurement of "Body Shape Rating" (BSR) is more accurate than BMI as a predictor of cardiovascular risk factors.
METHODS: 17 subjects (7 female, 10 male; aged 18-26) underwent laboratory testing beginning with a body composition assessment by the Fit3D (FIT3D Inc., San Mateo, CA). Subjects then had their heart rate and blood pressure recorded in a resting state before, during, and after a treadmill exercise bout. Descriptive statistics characterized the study sample and simple linear regressions tested the relationships between BSR and blood pressure.
RESULTS: In the pre-exercise measurements, BSR correlative measures with systolic blood pressure, diastolic blood pressure, and mean arterial pressure were: r= -0.082 (P=0.755), r= -0.052 (P= 0.843), and r= -0.102 (P= 0.698) respectively. In the post measures, BSR correlative values with systolic blood pressure, diastolic blood pressure, and mean arterial pressure were: r= -0.128 (P= 0.625), r= -0.073 (P= 0.782), r= -0.102 (P= 0.698) respectively.
CONCLUSION: In our sample, BSR failed to elicit significant correlations with blood pressure. While the Fit3D offers a clear technological improvement to simple anthropometric measurements, the pre- and post-exercise measurements did not indicate utility in determining cardiovascular risk.

2106 Board #25 May 28 2:00 PM - 3:30 PM

Walking Characteristics In Individuals With Stroke Differ Based On Walking Speed, Endurance And Daily Steps

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