controlling for participants' age, gender, and baseline value. There was no significant sex difference in the EIP at baseline or any of the three follow-up assessment periods.

CONCLUSION: Participation in 10 months of supervised moderate intensity Ex did not change macronutrient profile in a group of sedentary young adults. This finding is in opposition to the commonly held belief that diet composition changes when people become physical active.

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A-35 Free Communication/Poster - Epidemiology - Disease Prevention/Treament - Youth

JUNE 1, 2011 7:30 AM - 12:30 PM
ROOM: Hall B

1341 Board #77 June 1 9:30 AM - 11:00 AM

Physical Activity, Physical Fitness and Metabolic Risk Factors in Azorean Adolescents

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PURPOSE: This study aimed to analyze the relationships between metabolic risk factors (MRF) with physical activity (PA) and physical fitness (PF) in a sample of Azorean adolescents.

METHODS: A cross-sectional school-based study was conducted on 417 adolescents (243 girls) aged 15-18, from the Azorean Islands, Portugal. We measured height, weight, waist circumference, fasting glucose, HDL-cholesterol, triglycerides, and blood pressure. A sum of MRF was computed, and adolescents were classified in three groups: no MRF, one MRF and two or more MRF. PA was assessed by a sealed pedometer. PF was assessed using 5 tests from Fitnessgram Test Battery: Curl-up, Push-up, Trunk Lift, 20m Shuttle Run Test and the Modified-Back-Saver-Sit-and-Reach. Adherence to Mediterranean diet was assessed with a semi-quantitative food frequency questionnaire.

RESULTS: Mean daily steps for girls and boys were 7427±2725 and 7916±3936, respectively. 60% of the adolescents showed at least one MRF and 57.6% were under the healthy zone in the 20m Shuttle Run Test. Ordinal logistic regression analysis showed that, after adjusting for sex, body mass index, socio-economic status and adherence to Mediterranean diet, adolescents who were in the highest quartile of the pedometer step/counts (≥9423 steps/day) and those who achieved the healthy zone in 5 tests were less likely to have one or more MRF (OR=0.56;95%CI:0.33-0.95; OR=0.55;95%CI:0.31-0.98, respectively).

CONCLUSIONS: Daily step counts and PF levels were negatively associated with having one or more MRF among Azorean adolescents. Our findings emphasize the importance of promoting and increasing regular PA and PF to reduce the public health burden of chronic diseases associated with sedentary lifestyles.

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1342 Board #78 June 1 9:30 AM - 11:00 AM

Effects Of Ramadan Fasting On Body Composition, Energy Expenditure And Hematology In Young Boys

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Ramadan is the month according to Islamic calendar when Muslim's free from illness are obligated to fast for 30 days; this includes abstaining from food and drink between dawn to dusk. It is believed that intermittent fasting during the month of Ramadan can restrict physical activity and also affect body composition in young children. Although not mandatory for young children, a high proportion of children begin to fast at an early age. However, there is limited literature on the effects of Ramadan fasting in children.

PURPOSE: To investigate the effect of Ramadan fasting on changes in body composition, energy expenditure (EE) and hematology of young boys.

METHODS: Eighteen healthy boys aged 12.6±1.5 years were recruited before Ramadan (R0) and followed up at different times: 1st week of Ramadan (R1), 4th week of Ramadan (R4), 2 weeks after Ramadan (AR2) and 4 weeks after Ramadan (AR4). Body composition was determined by dual energy X-ray (DXA) scan and 24-hour EE was quantitatively assessed using a chest-worn triaxial accelerometer. Blood investigations included complete blood count, lipid profile analysis and iron indices.

RESULTS: Percentage of body fat at R0 (24.7±1.9%) was no different from R4 (24.6±1.9%) and AR4 (25.1±1.9%) however, a -0.58±0.1% reduction (p=0.001) was noticed at R1. In contrast at R0 body weight (45.4±3.2 kg) and lean mass (32.5±2.1 kg) increased (p=0.001) at R1 (0.43±0.1 kg) and (0.66±0.1 kg) respectively, but no further increases were noticed. The highest EE was observed during R4 (1.15±0.3 Kcal/min) but this was not significantly different from R0 (1.02±0.3 Kcal/min), R1 (1.06±0.3 Kcal/min) or AR2 (0.97±0.3 Kcal/min). There was a significant reduction (p<0.01) in hemoglobin (-0.48±0.4 mmol/L), serum iron (-4.6±5.7 µmol/L), transferrin saturation (-7.3±9.0%) and triglyceride (-0.14±0.2 mmol/L) at R4 when compared to R0.

CONCLUSION: In young boys Ramadan fasting decreased body fat during first week and this maintained to the end of Ramadan. Ramadan fasting did not reduce daily EE, which suggests that total energy intake is reduced during Ramadan. However, given that hemoglobin and iron indices were significantly reduced further research is warranted to determine the possible influence of a shift in macronutrient intake during Ramadan.

1343 Board #79 June 1 9:30 AM - 11:00 AM

Longitudinal Assessment Of Activity, Muscle Composition, And Functional Ability In Children With Duchenne Muscular Dystrophy

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Recent work has demonstrated decreased activity levels in boys with Duchenne muscular dystrophy (DMD) compared to healthy children, but we could find no investigations examining the change in activity level over time due to the natural course of disease progression.

PURPOSE: The purpose of this study was to determine the extent of reduction in activity level in boys with DMD and to explore the relationship of physical activity to muscle composition and functional ability.