exercise program in two different environmental settings: indoors (gym hall) vs. outdoors in a natural setting. Methods Healthy adults, 7 males and 7 females (age 48.5+/-7.3 yr; BMI 25.4+/2.45; VO2max 39.8+/-7.7 ml/min/kg), undertook two exercise sessions within 1-week, each consisting in 25-min biking (60.1+/-7.9 %HRR) followed by 20-min circuit strength training with rubber bands (49.7+/-9.6 %HRR). The subjects exercised at 15:30, randomized to the indoor or the outdoor group. After both sessions, beat-to-beat intervals were recorded overnight with HR-monitor belt and BP was measured the following morning. A 5-minute sequence during the first slow wave sleep (Brandenberger et al. 2005) was isolated for the HRV frequency analyses. Outputs were analyzed using a linear mixed model, with individuals' value collected in baseline conditions (no exercise for 48-hours) set as a covariate. Results Diastolic BP was significantly lower (p=0.018) the morning following the outdoor exercise sessions. A tendency to lower values was observed also for the systolic BP, although significance was not achieved. A poor quality of the overnight beat-to-beat monitoring did not allow including all the subjects in the analysis: only 8 subjects had a complete set of monitoring (baseline and post exercise). No significant differences across groups were found in HRV parameters. Discussion The data suggest that green exercise may positively impact the cardiovascular modulation, with possible health benefits in the long term, such as lower BP values. Though, studies on larger samples and longer interventions are recommended. References Gladwell, V. F., Brown, D. K., Barton, J. L., Tarvainen, M. P., Kuoppa, P., Pretty, J., et al. (2012). Eur j appl physiol, 112(9), 3379-3386. Thompson Coon, J., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Environ sci technol, 45(5), 1761-1772. Brandenberger, G.; Buchheit, M.; Ehrhart, J.; Simon, C.; & Piquard, F. (2005) Autonomic Neuroscience: Basic and Clinical, 121: 81-86.

REGULAR MOIST SNUFF DIPPING DOES NOT AFFECT ENDURANCE EXERCISE PERFORMANCE.

Mattsson, C.M., Björkman, F., Edin, F., Larsen, F., Ekblom, B.

Åstrand Laboratory of Work Physiology, The Swedish School of Sport and Health Sciences

Physiological and medical effects of snuff have previously been obtained either in cross-sectional studies or after snuff administration to non-tobacco users, but the effects of snuff cessation (SC) after several years of daily use on individual level are unknown. 24 participants with >2 years of daily snuff-use were tested before and after >6 weeks SC (SCG), together with a control group (CO) of 11 snuff users who kept their normal habits. Resting heart rate (HR) was significantly lower in SCG after SC. Body mass in SCG group increased by 1.4 ± 1.7 kg and blood pressure (BP) were reduced, but without significant differences between groups. Total cholesterol increased from 4.12 ± 0.54 (95% CI 3.89–4.35) to 4.46 ± 0.70 (95% CI 4.16–4.75) mM/L in SCG, due to increased LDL, and this change was significantly different from CO. Resting values of HDL, C-reactive protein, and free fatty acids (FFA) remained unchanged in both groups. During a four-stage incremental (from 50 to 80% of VO2max) and a prolonged (60 min at 50% of VO2max) cycling test HR and BP were reduced in SCG, while oxygen uptake (VO2), respiratory exchange ratio, blood lactate (bLa) and blood glucose (bGlu) concentration, and rate of perceived exertion were unchanged. All measurements were unchanged in CO. During the prolonged exercise FFA was reduced but there was no significant difference between groups. During the maximal treadmill running test peak values of VO2, pulmonary ventilation (VE), time to exhaustion and bLa were unchanged in both groups. In conclusion, endurance exercise performance (VO2max and maximal endurance time) does not seem to be affected by prolonged snuff use, while effects on cardiovascular risk factors are contradictory.

10 YEAR CARDIOVASCULAR RISK ASSESSMENT IN UNIVERSITY STUDENTS

Uvacsek, M.1, Kneffel, Z.1, Tóth, M.1, Johnson, A.W.2, Vehrs, P.2

1.Semmelweis University,Budapest 2.Brigham Young University, Provo, USA

Introduction Cardiovascular disease (CVD) causes more than half of all deaths in the European region, and according to WHO, 80% of premature heart disease and stroke is preventable. Healthy lifestyles, such as eating a healthy diet, regular physical activity, and not smoking are the most important preventive measures. Use of CVD risk assessment tools in a young population provides necessary information about risk for CVD which can be used to develop health promotion initiatives for youth. Methods The aim of the study was to compare, BMI, percent body fat (%BF), blood pressure, total cholesterol (TC) and high density lipoprotein cholesterol (HDL C), family history, activity behaviors, and the 10 year risk of having a heart attack between 166 students (21.62±2.59 yrs.) from Utah, USA and 198 students (22.11±2.51 yrs.) from Hungary. The body dimensions were measured according to ISAC methods (Norton et al.1996) the %BF was measured with Omron BF 306 and the 10 year CVD risk was calculated online (http://hp2010.nhlbihin.net/atpiii/calculator). Results According to the results, 92% of the Hungarian students and 100%of the Utah students had an estimated 10 year risk of 1% or less, however 8% of the Hungarians had moderate risk. The high prevalence of low risk was due to the young age of subjects, healthy body composition and non smoking behavior. The Hungarians who had higher risk of heart attack had significantly higher waist hip ratio (WHR), TC, diastolic blood pressure (DBP) and were smokers compared to the Hungarians with low risk. Four percent of the Utah students and 3% of the Hungarian students had positive cardiovascular family history. Based on self-reported levels of physical activity, 19% of Utah women and 14% of Utah men were sedentary compared to 50% of Hungarian women and 46% of Hungarian men. Conclusion Age is one of the primary risk factors for CVD. Young men and women who participated in this study were, for the most part healthy and had a low risk for CVD. Nevertheless, our data shows that even young men and women who are sedentary, smoke, and have high WHR, TC, and DBP have increased risk of CVD. Although, symptoms of CVD may not be manifest until later in life, health promotion efforts should also be targeted to young men and women. References Norton K., Whittingham N., Carter L., Kerr D., Gore C., Merfell-Jones M. (1996): Measurement techniques in anthropometry. In: K Norton & T Olds (Eds.). Anthropometrica, Sydney UNSW Press, 25-75. World Health Organization (2011): Global status report on noncommunicable diseases 2010. Geneva, (http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf). http://www.euro.who.int/en/what-we-do/health-topics/noncommunicable-diseases/cardiovascular-diseases/facts-and-figures

NATIONAL PHYSICAL FITNESS TESTS DATA IN GREEK CHILDREN AGED 7 TO 10-Y-OLD AND THE IMPORTANCE OF THEIR INTER-RELATIONSHIP.

Tambalis, K., Papoutsakis, S., Sidossis, L.

Harokopio University

Introduction: Physical fitness of children is connected to a clustering of risk factors such as hypertension, hyperlipidemia, and obesity (Anderssen et al., 2007, Tambalis et al., 2011). In order to create preventive strategies, it is important to incorporate national physical fitness levels in children. Therefore, the purpose of the current study was to evaluate the distribution of age- and gender- specific physical fitness tests measurements in 7- to 10-year-old Greek children and to determine their relation to body mass index. Methods: Population-based data derived from a health survey in approximately 85% of all Greek schools. Anthropometric measurements (i.e., height and weight) and physical fitness tests (i.e., multi-stage shuttle run, vertical jump, standing long jump, small ball throw and 30-meter sprint)