

GENDER DIFFERENCES IN ANTHROPOMETRIC DATA AND IN BLOOD PRESSURE VALUES AFTER A 10 WEEKS TRAINING PROGRAM

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Purpose: The prevalence of overweight and obesity and the incidence of non-communicable diseases increased dramatically over the past 20 years in GCC countries includes Qatar (1,2). The early screening and the propagation of the regular physical activity is essential in the country. The aims of the study were: 1. to map the body composition and blood pressure of young Qatari adults (18-30yr), 2. to determine changes in it after a 10 weeks training program. **Methods:** 158 Qataris were involved to the study [men (n=89), women (n=69)] from Qatar University (QU). We measured systolic (BPS) and diastolic (BPD) blood pressure body high, body weight, % body fat and the regular physical activity (PA) was assessed by IPAQ. Pre-hypertensive/hypertensive and overweight/obese subjects (20 males and 20 females) were selected and involved into the 10 weeks training program (3-5 times/week, 30-60 minutes/session, 55-60% of the HRmax). The training sessions on 3 times/week were guided by an instructor, the other 2 trainings were individually performed by the subjects followed by a written training schedule. **Results:** 28.3% of males were overweight and 34.8% were obese; where females were 23.2% and 17.4%, respectively. Male subjects had significantly higher BMI values than females (27.38±6.24 vs. 23.24±5.57 p<.001). IPAQ results shown that vigorous, and moderate type activity didn't differ between genders, but in low intensity PA (walking) females were more active than males 111min/week vs. 88 min/week, p<.001. Males attended frequently on the face-to-face training sessions than females (2.3 vs. 1.45 hours/week, p<.05). The 10 weeks training program induced significant reduction in BDP (78.00±6.06 vs. 74.81±10.2 mmHg, p<.05), BW (91.12±16.31 vs. 85.2±15.28 kg, p<.01), %BF (31.15±9.0 vs. 21.19±4.38 p<.01), in male subjects but we couldn't established these differences in females. **Discussion:** The used intervention induced substantial changes in most of the measured parameters in males. The total PA in both genders was far away from the recommendation so it is crucial to pay attention its beneficial effects. Because the PA social image is differ in Qatar than in other Western countries to maintain the motivation, the suitable duration and the intensity of the PA, continuous control by a sports expert seems to be effective. This study was made possible by a UREP award [UREP 12-048-3-009] from the Qatar National Research Fund (a member of The Qatar Foundation). The statements made herein are solely the responsibility of the authors. **References:** 1. Ng, S. W., Zaghoul, S., Ali, H. I., Harrison, G. and Popkin, B. M. (2011), The prevalence and trends of overweight, obesity and nutrition-related non-communicable diseases in the Arabian Gulf States. *Obesity Reviews*, 12: 1–13. 2. James, P. T., Leach, R., Kalamara, E. and Shayeghi, M. (2001), The Worldwide Obesity Epidemic. *Obesity Research*, 9: 228S–233S. **Contact:** zs.kneffel@qu.edu.qa

BONE CHARACTERISTICS, BODY STRUCTURE AND MILK CONSUMPTION IN ATHLETIC AND NON-ATHLETIC 16-18-YEAR-OLD ADOLESCENTS

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Introduction It is a well-known fact that regular physical activity has favourable influence on the bone status and on peak bone mass. A quantitative ultrasound measurements is relatively inexpensive, portable, non-invasive method of evaluating bone characteristics. The main goal of this study was to analyze relationships between habitual physical activity, some anthropometric variables, milk consumption and bone parameters in adolescents. **Material and Methods** The subjects were 16-18-year-old non-athletic boys (109) and girls (95) and athletic boys (104) and girls (69). Athletic adolescents' sport related experience was more than 4 years, minimum 3 times/week. Anthropometric measurements were taken by the suggestion of the International Biological Program (Weiner and Lourie 1969). Body fat percentage was estimated by Pařízková's method (1961), body composition by Drinkwater and Ross technique (1980). Calcaneal quantitative ultrasound (QUS) parameters were registered by Sonost 3000 bone densitometer. The analysis included speed of sound (SOS, m/s), broadband ultrasound attenuation (BUA, dB/MHz) and the calculated bone quantity index (BQI= α SOS+ β BUA, α , β : temperature corrections). Ca-uptake was assessed by daily milk consumption by using of food frequency questionnaire. Differences between athletic and non-athletic adolescent boys and girls were tested by Tukey's post-hoc test. Correlation patterns of the bone characteristics and milk consumption for total sample were analyzed. Differences between subgroups of milk consumption were tested by Student t-test (p<.05). **Results** There were significant differences between subgroups in body composition. In comparison of the athletic and non-athletic subgroups the bone parameters i.e. SOS (boys: 1508.03±16.79 vs. 1495.6±11.75 ; girls: 1501.18±15.11 vs. 1490.66±11.67), BUA (boys: 92.09±18.16 vs. 83.79±13.04; girls: 91.07±14.43 vs. 85.65±12.19) and BQI (boys: 78.21±17.82 vs. 66.92±12.87; girls: 73.16±15.42 vs. 63.25±12.43), athletic adolescents had the better values. There were slight significant relationships between bone parameters and milk consumption. The SOS, BUA, BQI for the whole sample differed significantly by the frequency of milk consumption: SOS (1502.25±16,7 vs. 1495.9±13.48), BUA (90.12±15.9 vs. 85.79±14.56) and BQI (73.29±17.15 vs. 67.24±14.3). **Conclusions** The regular physical activity helps to prevent osteopenia and osteoporosis. The bone variables differed in athletic and non-athletic adolescents. It seems that quantity bone parameters considerably related to the milk consumption. **References** Pařízková J (1961). Total body fat and skinfold thickness in children. *Metabolism*; 10: 794-807. Weiner JES, Lourie JA (1969). *Human Biology. A Guide to Field Methods*. IBP Handbook, No. 9. Blackwell, Oxford. Drinkwater, D.T., Ross, W.D. (1980) Anthropometric fractionation of body mass. In: Ostin, M., Beunen, G., Simons, J. (Eds) *Kinanthropometry II*. Baltimore, University Press. 178–189. **Contact** szmodis@tf.hu

ENVIRONMENTAL PERCEPTION AND PHYSICAL ACTIVITY IN YOUTH

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Introduction Several environmental factors such as recreation infrastructure, transport, aesthetic and safety perception have been investigated in relation to self-reported and objective physical activity (PA) in youth (Bauman et al., 2012). The study aims were: (i) to assess the relationship between environmental perception and objective PA, self-reported PA and self-reported active commuting (ii) to analyze differences regarding to the meeting PA recommendations in relation to environment perception in youth. **Methods** A total of 1520 youth (770 boys) aged 8-18 years from the UP&DOWN study were included. Self-reported PA was assessed by Physical Activity Questionnaire for Children, Physician-based Assessment and Counseling for Exercise questionnaire and Finnish Physical Activity Index. Objective PA was measured by accelerometry. Active commuting in leisure time was self-reported. Environmental perception was assessed using an