

Analysis of caloric intake and its relationship with body composition in university students

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For there to be a good development of the components of body weight, it is necessary that the body is in good health and nutrition. The imbalance between food consumption and requirements, either deficit or excess, has implications for the development of body components. Several studies report differences in body composition related to the type of food; Overweight and obesity are characterized by excessive accumulation of body fat as a result of a higher caloric intake to energy expenditure. The composition of an organism reflects the accumulation of nutrients and other substrates acquired and retained by the body. The components ranging from elements to tissues and organs are the structures that make up the mass and function of all living beings. A group of 60 Students from University of Évora were evaluated. The variables obtained were assessed in the first day in the University at the time of registration, using a nutrition questionnaire and one bioelectrical impedance machine. The Spearman's Correlation was used to compare the results. We observed significant differences between men and women in total Kcal (male 2279.2 ± 859.3 vs. female 2026.2 ± 894.9 ; $p = 0.044$); Cholesterol (male 455.1 ± 213.1 vs. female 382.7 ± 340.8 ; $p = 0.027$); Ethanol (male 9.4 ± 17.5 vs. female 2.4 ± 2.9 ; $p = 0.003$); Weight (male 68.7 ± 10.9 vs. female 56.3 ± 10.1 ; $p = 0.001$); Basal Metabolism (male 1720.1 ± 183.8 vs. Female 1340.8 ± 147.4 ; $p = 0.001$) and Visceral Index (male 1.95 ± 1.42 vs. female 1.30 ± 0.72 ; $p = 0.024$). We have also observed a statistically significant correlation between large part of the variables studied. We can conclude that the students before entering at the university have a good relationship between calorie intake and its direct relationship with body composition. However these data are predictors of a relatively high protein intake, a reduction of carbohydrates and an increase in cholesterol. The University stress associated with a poor diet, often resorting to fast food, can be a predictor of a decrease of good relationship: Nutrition and Body Composition

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The effects of strength training in the lower limbs and balance in the prevention of the risk of falls and cognitive function in elderly population

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The aim of this study was to examine the effects of strength training on lower limbs strength parameters and balance, in the risk of fall prevention and cognitive function in elderly population. Subjects were divided in two groups: experimental group (EG, $n=8$; 77.5 ± 8.1 years; 155.0 ± 8.5 cm; 66.1 ± 10.2 Kg and 26.9 ± 2.8 BMI) and a control group (CG, $n=8$; 81.0 ± 2.3 years, 154.2 ± 10.2 cm; 66.8 ± 9.5 Kg and 27.1 ± 2.2 BMI). All subjects received home support from *Association of Melhoramentos Pró-Outeiro* in Oliveira of Azeméis. The EG performed an intervention program during 12 consecutive weeks with a frequency of two weekly sessions in non-consecutive days. The intervention program was based on a set of exercises to promote the strength of lower limbs, balance, and cognitive stimulation. The CG did not execute any physical activity. Both groups completed a pre-test, and after 12 weeks performed the post-test. Functional capacity was measured by the chair stand test (S30), foot up and go test (TUG) and 6-min walk test (MIN 6); the cognitive function was collected through the application of Mini-Mental State Examination (MMS) and balance assessed through Tinetti Scale (Lin et al. 2004). After 12 weeks of training, EG reduced the time to perform the test

of coordination, agility and balance (TUG) by 2%, increased the number of repetitions on S30 test by 4.1% and the number of meters from 216.4 to 246.8 (14.7%, MIN 6) improving the aerobic capacity. Regarding to cognitive capacity (MMS) EG preserve the cognitive function comparatively to the CG [(EG: pre-test to post-test: 20.7-21.6 points (4.3%) and in the CG: 20.03-19.65 points (-1.9%)]. In balance performance EG showed a significant improvement after the program training ($P=0.014$) and also a significant increase compared to CG ($P=0.037$). These data indicated that the effectiveness of the innovative training program applied during 12 weeks regarding to the prevention of the risk of falls seems to be positive in preserved physical independence and cognitive function mediated in part, by the effectiveness of program training particularly developed to institutionalised elderly people.

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Continuous metabolic syndrome risk score validity for Danish children and adolescents

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A study performed in children (Eisenmann, Laurson, DuBose, Smith, & Donnelly, 2010) showed that a continuous metabolic syndrome risk (cMSr) score, derived from principal component analysis (PCA), was higher in those with the metabolic syndrome (MS) and that the cMSr score raised progressively with the number of adverse risk factors, validating the cMSr score in 7-9 years old children. Their study suggests the application of such approach to validate a cMSr score for older youth. Our study aims to assess the validity of a cMSr score for Danish children and adolescents. Data included 1812 youth between 9.0-15.99 years old who participated in the European Youth Heart Study (EYHS) framework in Denmark (Riddoch et al., 2005). The cMSr was calculated based on the risk factors considered by the current International Diabetes Federation (IDF) definition for children and adolescents (Zimmet et al., 2007), involving three steps: a) all variables were normalized (log10) because of their non-normal distribution; b) PCA with orthogonal (varimax) rotation was applied, and variables with a factor loading ≥ 0.4 , which share at least 15% of variance, were used. Analysis revealed three principal components with eigenvalue ≥ 1.0 for girls and two principal components for boys; c) cMSr was computed by summing the individual principal component scores, each weighted for the relative contribution of the principal components to the explained variance. The cMSr score increased progressively with the number of adverse risk factors, being lowest in the group without risk factors (-0.35 ± 1.4), higher ($p < 0.001$) in the group with one risk factor (0.78 ± 1.6), even higher ($p < 0.001$) in the group with two risk factors (1.98 ± 1.2) and highest in those possessing the MS according to IDF criteria for youth (3.17 ± 1.5). Our results validate the application of the cMSr score for Danish children and adolescent.

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Effects of a functional rehabilitation program designed by the arronches care unit for a patient with stroke: a case report

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This study describes the effect of a Functional Rehabilitation Program (FR) designed for the recovery of stroke patients. A new FR approach for stroke patients was experienced obeying the internment protocol used in the Continuing Care Units Mean Duration and Rehabilitation. According to the law (DC 101/2006), the protocol includes the patient initial assessment and the design of an individual FR program of treatment developed until 90 days; moreover, suggests evaluations after 30 days of hospitalization and before day 90