

T4:PO.46

The influence of cigarette use on adiposity and linear growth in adolescence

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Objective: To study the effect of cigarette use on linear growth and changes in adiposity indicators over time among boys and girls.

Method: Data on cigarette use were collected every 3–4 months throughout 4.5 years among 1267 students aged 12–13 years at baseline in a convenience sample of 10 Montreal-area schools. Anthropometric indicators were measured at baseline, 3 and 4.5 years. Multiple linear regression models were fitted to estimate the association between cigarette use and changes over time in each of height, body weight, body mass index (BMI), and triceps skin fold thickness, adjusting for baseline values of the outcome of interest, and potential confounders of the association. An interaction term was included in all models to study effect modification of the association by sex.

Results: Study participants included 63 persistent smokers and 596 non-smokers. Over the 4.5-year follow-up, the adjusted differences between persistent smokers and nonsmokers were: (i) -3.4cm in males and 0.4 cm in females for height (P -value for interaction=0.0294); (ii) -2.4 kg/m² in males and 0.3 kg/m² in females for BMI (P -value for interaction=0.0007); (iii) -9.9 kg in males and 1.1 kg in females for absolute body weight (P -value for interaction<0.0001); and (iv) -2.8 mm in males and 1.1 mm in females for triceps skin fold thickness (P -value for interaction=0.0344).

Conclusions: Cigarette use was associated with lower rates of linear growth and changes in adiposity indicators in males. In females, the effect of cigarette use on linear growth and changes in adiposity was negligible.

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Lung function and type 2 diabetes in elderly Taiwanese

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Objective: To compare the lung functions between diabetic and non-diabetic elderly in Taiwan.

Research design and Methods: A total of 9664 subjects aged 65 years and over (5136 men and 4528 women, mean age=70.2±4.44 and 70.0±4.47 years) were recruited from 4 nationwide health screening centers in Taiwan from 1998 to 1999. Subjects with lung diseases history were excluded. Lung function presented with forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV1) was measured as dependent variables and several multivariate linear regression models were performed using age, gender, height, fasting glucose, waist circumference and smoking status as independent variables. The difference of lung function between diabetic and non-diabetic subjects was also demonstrated.

Results: The prevalence of type 2 diabetes mellitus was 14.5 % in male and 16.6 % in female in elderly Taiwanese. The FEV1 and FVC were associated with age, gender, height, glucose, waist circumference and smoking status. After adjusted for age, height, waist circumference, and smoking status, FEV1 and FVC were both significantly different between diabetic and non-diabetic groups in both genders. On average, FVC was reduced by 72.1 ml in male and 74.3 ml in female in diabetic subjects compared to non-diabetic subjects. FEV1 was reduced by 54.0 ml in male and 56.5 ml in female between these two groups.

Conclusions: Lung function is associated with age, gender, height, glucose, waist circumference and smoking status. Elderly with type 2 diabetes had lower lung function than those without diabetes in Taiwan.

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Calibration of MTI actigraph in old obese adult

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The purpose was to derive a regression equation that estimates energy expenditure from accelerometer counts in old obese adult. The sample comprised 14 old obese or overweight adults (63±7 years). VO₂ was measured using a stationary breath-by-breath metabolic unit. Each participant wore two MTI Actigraphs over right hip, to prevent any malfunction, or other hazard occurrence, which were the same for all participants. The variation between the unities was low (R=0.99). Only the data of the same unity was used. 1 min. epoch was used. Each participant did these activities in sequence: rest, seated, stand, walk at 2.5 km*h-1, walk/run at 5km*h-1, and run at 7.5km*h-1, and VO₂ and counts were simultaneously assessed. Rest VO₂ was collected for 15 min with the participants in a lay position. For all activities other than rest, VO₂ and counts were collected during 6 min., with the mean value of the last 3–6 min. used for data analysis. A hierarchical linear model was used to analyze the relationship between accelerometer counts and VO₂. Coefficients associated with quadratic and cubic trends in third polynomial model were not found to be significantly different from zero. The contribution of body mass index, waist-to-hip ration, sum of skinfolds and gender were not found to contribute significantly to the fit of the model. Thus only results from the unadjusted linear mixed model are reported here. The association between counts and Kcal was 0.89. The derived equation was: Kcal = 1.54 + 0.00127 (Counts-min⁻¹).

T4:PO.50

Prevalence of obesity and overweight and relationship with Diabetes in Albanian population

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Material and method: Anthropometric measures (weight, height, waist circumference) and measurement of capillary blood glucose for healthy people unknown to have diabetes. They were asked for the general data (age, sex) and about positive familiar anamnesis for diabetes, treatment for HTA and smoking. Diabetes is defined according to ADA criteria; fasting glycaemia ≥126mg/dl or casual glycaemia ≥200 mg/dl, IFG <110 and <126mg/dl, and IGT 120-200 mg/dl.

Results: From the total of 2334 persons that participated in the screening, we obtained all the data for 2211 of them. M/F 1190/1021 (53.8%), mean age 50.8±14.02 yrs, mean BMI 26.3±1.6 kg/m². Prevalence of obesity was 21.4%, equally present in males and females 21.64/21.4%, overweight 44.61% M/F 48.19/40.45% (P <0.05). The obesity was more frequent in the age-group 40-60 yrs old 25%, but 14.8% in the age-group 30-40 yrs old. Central obesity was present in 85.4% of females and 57.3% of males. Prevalence of Diabetes was 4.07%, IFG 2.8% for the total population but 17.03% of the persons with fasting glycaemia, IGT 16.01%. The overweight and obese persons had the tendency to be more frequently diagnosed with diabetes, respectively 4.88 (P =0.07) and 13% (P <0.03), to have more familiar anamnesis for diabetes (P <0.02) and suffer from HTA (P <0.05). The same results were confirmed for the IFG and IGT group. In the multivariate analysis the obesity and familiar anamnesis were risk factor for Diabetes or IFG, whilst HTA, sex and age were not.

Conclusions: The prevalence of overweight and obesity is increasing rapidly in Albania and especially in the younger age group. It remains a risk factor for Diabetes, IFG, IGT, HTA and premature death. It is important to raise the awareness of younger population about creating healthy eating habits and physical activity, as well as the frequency of controlling blood glucose level.