

# The 4th Scandinavian Pediatric Obesity Conference

## Poster Presentations

### TRACK 1: Epidemiology

T1:PO.01

**Trends in overweight and obesity among children from Jena, Germany**

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**Introduction:** Trends in the prevalence of overweight and obesity in Jena children (Germany) were assessed between 1975 and 2005/2006. In addition changes in body composition were investigated and factors related to these changes should be identified.

**Methods:** The analyses were based on cross-sectional school-based surveys in 7- to 14-year-old children performed in Jena 1975, 1985, 1995 and 2005/2006. Overweight and obesity were estimated by German and IOTF reference data. Body composition was assessed by skinfold thickness. Household questionnaires were performed to get additional information about the parents (parental education and employment status, overweight), meal patterns, and physical activity. Using linear and logistic regression analysis the association of these factors with weight status and body composition was analysed.

**Results:** Between 1985 and 2005/2006 the prevalence of overweight and obesity increased significantly in both sexes, whereas non-significant changes were found between 1975 and 1985. Parallel to the increase in BMI, there has been a clear increase in the subcutaneous fat mass. Changes in fat mass were found even if BMI remain unchanged, indicating changes in body composition. Multivariate analyses showed that parental weight status, and low-educational level of the parents as well as television watching, and low meal frequency were associated with higher BMI-values and higher fat mass.

**Conclusions:** Prevention programmes to establish a healthy and active lifestyle are necessary to prevent the initial development of abnormal fat gain. The close involvement of parents in any strategy is essential.

**Conflict of interest:** None disclosed.

**Funding:** No funding.

T1:PO.02

**Influence of birthweight, socioeconomic status, cardio-respiratory fitness in body mass index**

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**Introduction:** The increasing overweight and obesity prevalence among children and adolescents may not only result in life quality prejudice but also increase obesity indexes at adult age. Perinatal factors such birthweight (BW) as well as socioeconomic factors (SES) and cardio respiratory fitness (CRF) have shown different associations with adolescents' obesity level. Thus, the aims of the present study were (1) to describe the prevalence of overweight/obesity (Ov/Ob) and, (2) to evaluate the associations of BW, SES and CRF on adolescents body mass index (BMI).

**Methods:** The sample comprised 2328 adolescents aged from 10 to 18 years old, from Portugal. BMI Z score adjusted for age and gender were used to categorize normal weight (NW), versus Ov/Ob (those with 1 standard deviation or more were categorized as overweight/obese). CRF was obtained from the 20 m shuttle run test

by Fitness Gram's battery. Maternal education used to define socioeconomic status (SES). BW was assessed by parents' questionnaire and was divided in: normal BW (NBW), low BW (LBW) and high BW (HBW), according to CDC cut offs. Logistic regression was performed to assess the associations between BW, SES and CRF with BMI.

**Results:** We found an Ov/Ob prevalence of 13.4%. Adolescents with Low CRF (OR = 5.3), high BW (OR = 1.7) and low SES (OR = 1.4) were more likely to be classified as Ov/Ob than those with normal CRF values, normal BW and middle SES.

**Conclusion:** We found negative associations between Low CRF, HBW and Low SES and BMI in our sample.

T1:PO.03

**Ethnic differences in the relationship between body mass index and percent body fat among Asian children**

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**Introduction:** Body mass index (BMI) is often used as the surrogate for body fat to define obesity; however, the approach has limitations. The aim of the study was to determine the effect of ethnicity on the BMI-percent body fat (%BF) relationship among Asian children from different origins.

**Methods:** Height, weight, and %BF (determined from TBW using the deuterium dilution technique) was assessed in 531 boys and 506 girls aged 8–10 years. The WHO growth reference (2007) was used to define obesity. Analysis of covariance was employed to compare differences in %BF among ethnic groups, with gender, age and BMI as covariates.

**Results:** There was an interaction between BMI and ethnicity in this cohort. Normal-weight Malay (23.3 ± 0.5%) and Filipino (23.2 ± 0.7%) children had a higher %BF than Chinese (21.3 ± 0.4%), Lebanese (21.0 ± 0.6%), and Thai (20.7% ± 0.5) children. Overweight Malay children (36.0 ± 1.6%) had a significantly higher %BF than the other four ethnic groups. There was no significant ethnic difference in the BMI-%BF relationship among overweight Chinese (31.6 ± 0.5%), Lebanese (32.2 ± 0.9%), Filipino (30.1 ± 1.5%), and Thai children (29.7 ± 0.9%) except that the Lebanese had a higher %BF than Thais. Further, obese Filipinos (35.1 ± 0.8%) and Thais (35.5 ± 0.8%) had a lower %BF than Chinese (39.1 ± 0.7), Lebanese (40.6 ± 0.3%), and Malay children (39.5 ± 1.1%).

**Conclusions:** Ethnicity has an effect on the BMI-%BF relationship among Asian children from different origins which varies across the BMI range. These differences should be taken into account when developing BMI cut-offs to define obesity.

**Conflict of interest:** None disclosed.

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