

### 1441 ANTHROPOMETRIC ASSESSMENT OF NUTRITIONAL STATUS AMONG SOUTH SINAI CHILDREN

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**Background** No information exists on nutritional status of South Sinai residing children, Egypt.

**Aim** Assessing prevalence of malnutrition among South Sinai children.

**Methods** Cross sectional study included 3987 healthy children (0 to 11 years); randomly selected; represent about 12% of all children from the 6 areas of South Sinai. Height and weight were measured. Weight-for-age Z score (WAZ), height-for-age Z score (HAZ) and weight-for-height Z score (HAZ) were used to estimate the children's nutritional status. Venous blood sample was obtained to measure plasma hemoglobin level for school students.

**Results** Wasting (WHZ < -1.96 SD), underweight (WAZ < -1.96 SD) and stunting (HAZ < -1.96 SD) were prevalent among 4.2%, 8.9% and 11%, respectively. Prevalence of underweight, at risk of wasting and be anemic were more prevalent among boys than girls ( $p < 0.01$ ). On the other side, 8% were overweight and 4% were obese. Although small percentage of anemic school children was suffering from growth deviation (wasting, 2.8%; underweight, 5.6%; stunting, 9.9%; overweight, 2.8% and obese, 1.4%), 55% of them were at risk of growth deviations (wasting, underweight and stunting). Under nutrition were more prevalent among South Sinai children than their peers in Greater Cairo, while over nutrition was less prevalent.

**Conclusion** The highest prevalence of malnutrition was detected in infant's age. Anemia of primary school children was more prevalent among those at risk of under nutrition than undernourished ones.

Community education on environmental sanitation and personal hygienic practices, proper child rearing, breast-feeding and weaning practices would possibly reverse the trends.

### 1442 ELEMENTARY SCHOOL-BASED OBESITY PREVENTION INTERVENTION EFFECT ON WAIST CIRCUMFERENCE AMONG MULTIETHNIC 6–13 YEAR OLDS

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**Background** Childhood onset obesity and related health consequences continue to be major clinical and public health issues in the USA and abroad. Schools provide an opportunity to implement prevention strategies to large, diverse pediatric audiences. Healthier Options for Public Schoolchildren (HOPS) was a school-based obesity prevention intervention with nutrition and physical activity components implemented in the elementary school setting targeting 6–13 year olds.

**Methods** HOPS was a quasi-experimental elementary school-based obesity prevention intervention targeting ethnically diverse 6–13-year-olds (Kindergarten-6<sup>th</sup>). Over four school years (August 2004-June 2009), five schools (four intervention; one control, N=3,183, 48% Hispanic) in Florida participated in the study. Waist circumference (WC) data was reported in the Fall of 2005 and Spring of 2006 only and these one year results are reported here.

**Results** Among boys, the mean incremental change in WC (measured in centimeters [cm]) increase was significantly less in the intervention (1.35 cm +/- 0.88 [SD]) versus control schools (3.83 cm +/- 0.94) ( $P < 0.0001$ ). Among girls the mean incremental change in

WC increase was significantly less in the intervention (1.20 cm +/- 0.84) versus control schools (4.17cm +/- 0.89) ( $P < 0.0001$ ). Similarly, waist-to-height ratio results showed that the intervention group mean incremental change was significantly less versus the control group for boys ( $P = 0.0002$ ) and girls ( $P < 0.0001$ ).

**Conclusions** Elevated WC is strongly correlated with cardiometabolic disease risk factors and should be monitored in young children as such. School-based obesity prevention interventions show promise in improving weight and potentially cardiometabolic health in elementary-school aged children.

### 1443 RELATION OF BIRTH WEIGHT AND INFANT GROWTH WITH BODY SIZE, BODY COMPOSITION AND FAT DISTRIBUTION AT AGE 5–6 YEARS

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**Background and Aims** In a prospective cohort study (the ABCD study), we investigated the association of early growth with (precursors of) childhood obesity.

**Methods** Our study was based on 2,338 term born children with on average 7 measures of growth (weight and length) from birth to age 12 months. We used conditional weight, a residual of current weight regressed on prior weights, to represent deviations from expected weight gain from 0 to 1, 1 to 3, 3 to 6, and 6 to 12 months. The same method was applied for conditional length and body mass index. Relations of these measures with height, body mass index, fat mass (adjusted for height and fat free mass) and waist-to-height ratio (WHtR) at age 5–6 were explored using linear regression analysis.

**Results** Higher birth weight, weigh conditionals and bmi conditionals for all periods in infancy (expressing faster growth) were associated with increased height, body mass index, fat mass and WHtR. Furthermore, although higher length conditionals after 3 months were associated with higher childhood bmi, no association was found with fat mass. Higher length conditionals were associated with lower WHtR.

**Conclusions** Faster prenatal growth and subsequent faster infant weight- and bmi gain were associated with greater childhood body size, more fat tissue mass and more central adipose distribution. Conversely, although rapid length gain after 3 months was associated with greater childhood body size, this was not accompanied by more fat tissue mass, yet with less central adipose distribution.

### 1444 ASSESSMENT OF ALIMENTARY BEHAVIOR AND PHYSICAL ACTIVITY IN ROMANIAN OBESE SCHOOL CHILDREN

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**Background and Aims** Obesity represents a major, global health problem, continuously increasing all over the world, including Romania. We carried out an epidemiological study on the alimentary behavior and physical activity in overweight and obese school children.

**Methods** The target population was represented by 41 overweight school children, 68 obese and 57 normal weight, from Craiova, in 2008–2011. Inclusion criteria: children aged 6–14 years with BMI ≥ 95 percentile/sex/age for obesity, 85 ≤ BMI < 95 percentile/sex/age for overweight and 85 < IMC ≤ 5 percentile/sex/age for normal weight. For every child in our group we followed the alimentary inquiry, the