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Project Zero Obesity

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Introduction: Childhood obesity represents one of the most serious public health challenges, as it reached epidemic levels in several countries around the world. The prevention and treatment of this disease should be a top priority. The interventions used within childhood obesity approach should be community and family based and should essentially lie upon behaviour modification regarding diet and physical activity. The main purpose of the Project Zero Obesity is to tackle childhood obesity at municipality level through a set of activities (Healthy cooking programme and a nutritional guidance programme) targeted at low-income families with overweight children (6–10 years old).

Method: A quasi-experimental multicentric study, developed in 2009/2010 in five Portuguese municipalities from the five regions of Portugal: Melgaco – north, Mealhada – centre, Cascais – great Lisbon, Beja – alentejo articulated

with healthcare centres and local governments. The program offered, to children and their families, a four stages intervention: (i) four sessions of Individual Nutrition Counselling, (ii) a Healthy Cooking workshop, (iii) two children's group sessions (nutrition and physical activity) and (iv) a Parents/families Group counselling. Outcomes of nutritional status were assessed at baseline and at 6 months after.

Results: Of the 294 children participants in the intervention (47.5% boys and 52.9% girls; mean age 8.6 years; mean percentile 93.6), 220 (75%) have completed the programme. Mean percentile decreased by 2369 ($P < 0.05$).

Conclusions: These data suggest that interventions at local level can have significant effects on childhood overweight prevalence. This knowledge may identify additional potential effective interventions in order to reverse the obesity trends in Portuguese children, one of the highest in Europe.

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A nutrition intervention program in preschool children in northern Greece

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Introduction: The rapid increase of childhood obesity all over Europe, and the impact in later life complications, creates the need of planning effective interventional nutritional programs from an early age. Developing programs to influence children's opportunities for healthy choices must be an important concern for nutrition scientists. The aim of the present study was to assess the effectiveness of a nutrition intervention program using educational methods, in preschool children, with emphasis on snack consumption.

Method: Fifty-four preschool children (twenty-seven boys and twenty-seven girls) participated in the study, aged 2–5 years (mean age 3.99 (SD 0.79) years) from Thessaloniki Municipality kindergartens, in northern Greece. Subjects were assigned into two equal numbered groups, intervention (IG) and control (CG) group. Eight educational courses

concerning nutrition and healthy food choices were applied at the IG. The intervention lasted for 3 months. Furthermore, informative brochures with principles on normal growth, nutrition and food quality were provided for the parents of the IG children. Additionally the parents of all participants completed a detailed questionnaire at baseline, which comprised of questions regarding socio-demographic status, nutritional habits, behaviours and practices with possible effect on nutritional status of the children. Weight and height were measured and BMI was calculated, while weight categorization was performed using International Obesity Task Force (IOTF)'s criteria. Snack consumption was assessed using an FFQ. The same methodology including anthropometry and FFQ was applied at the beginning and after the completion of the intervention program.

Results: In all, 4.6% of the children were obese (4.9% for boys and 4.2% for girls) and 14% overweight (14.6% for boys and 13.3% for girls). Weight status re-evaluation demonstrated that overweight rate was decreased for the IG (-3.7%), while it was increased (+3.5%) for the CG. However this difference was not statistically significant. Food consumption frequency evaluation at baseline showed that the rate of unhealthy snacking was high in preschool children in northern Greece and it was higher for overweight and obese children. Overweight children consumed more often milk and yoghurt with sugar ($P=0.044$), candies ($P=0.00$) and sugar-sweetened

drinks ($P=0.003$) compared with normal weight children. After the nutrition intervention was completed, the re-evaluation showed that the frequency of consumption of unhealthy snacks such as potato chips ($P=0.028$), packaged pastries and confectionery ($P=0.025$) and bottled sweetened juices ($P=0.00$) decreased in the IG and the decrease was higher for the overweight children, compared with the CG.

Conclusions: The study showed that a nutrition intervention program, even of a short duration, focusing on preschool children can affect food choices and decrease the frequency of unhealthy snack consumption.

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The effects of a community weight loss program for children and young people in nine locations across England

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Introduction: Childhood obesity continues to be a public health challenge. Although a range of intervention studies demonstrate it is possible to achieve short-term lifestyle changes and weight loss, many studies are one off trials. Given the scale of the problem, in addition to positive outcomes, replication of the positive outcomes in a range of groups and locations is necessary. The present study reports the outcomes of twenty-eight programmes delivered in nine locations across the England.

Method: Five hundred and eighty-seven participants, aged 4–17 years, were included from twenty-eight Carnegie Club programmes across nine different locations in England. The 12-week programme included parallel child and parent sessions for 3.5 h each week. All sessions consisted of lifestyle education and physical activity. All participants were assessed weekly for body mass, with pre- and post-measures collected

for stature, BMI, BMI SD score, waist circumference, % body fat, blood pressure and global self-worth. All delivery staff undertook a comprehensive training programme and used age appropriate standardized materials for programme delivery.

Results: Over the 12-week period, significant ($P<0.01$) reductions were observed in body mass, BMI, BMI SD score, waist circumference, % body fat and blood pressure. Global self-worth and height increased significantly ($P<0.01$). No differences were observed in any variable between the programmes or locations.

Conclusions: The Carnegie clubs demonstrated significant short-term beneficial outcomes in anthropometry, adiposity, blood pressure and psychological well-being among overweight and obese children and adolescents. The lack of variation between outcomes demonstrates the reliability of this treatment model.

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2nd Workshop: Climate Change and Childhood Obesity – Keynote Speaker

Climate and fat metabolism

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Professor of Human Anatomy, University of Ancona; President of the Teaching Committee of the Faculty of Medicine and President Italian Society of Obesity (2008/2010)