

## OBESITY

# New database charts the course of childhood weight gain in Europe

The prevalence of childhood overweight and obesity in Europe exhibits both between-country and within-country variation, according to the findings of two independent studies published in the *International Journal of Obesity*. The reported differences possibly reflect disease-modifying factors such as birthweight and/or socioeconomic inequalities.

Obesity has become an increasingly frequent problem among children and adolescents worldwide. Although genetic factors have clearly played a part, insight into how external factors modify disease risk is of fundamental importance to public-health efforts that aim to halt or even reverse this trend.

The IDEFICS Consortium comprises a group of researchers from 23 institutions in 11 member states of the European Union (EU). A primary goal of the IDEFICS is to provide a snapshot of the diet and lifestyle habits of children within the EU, with particular consideration of geographical, social and cultural factors and how they might influence the development of overweight or obesity.

Pigeot and colleagues have now pooled the data from seven IDEFICS surveys, carried out between 1995 and 2005, and created a master database on childhood

overweight and obesity within the EU. “The idea was to pool together the raw data of previous studies, harmonize the common variables explored in each study and include the harmonized variables in a unique database,” explains Alfonso Siani, a Senior Research Scientist from the Institute of Food Sciences (Avellino, Italy). Such an approach aimed to limit the effect of differences in the methods used for data collection in each of the seven surveys.

The pooled database included 18,626 children from Belgium, Cyprus, Estonia, Italy and Sweden. Two age groups were defined by the researchers: 4–5 years and 9–11 years; the primary outcome measure (overweight or obesity) was determined from the age-specific BMI. The highest prevalence of overweight or obesity was detected among Italian children, whereas children from Estonia had the lowest prevalence. Children from Cyprus experienced an increased prevalence of overweight and obesity with increasing age. Italian children aged 9–11 years had higher values for anthropometric variables (for example, waist circumference) than the other children. By contrast, children from Cyprus in the 9–11 years age group had higher systolic and diastolic blood pressure measures than their peers from Italy,

Estonia and Sweden. Perinatal, parental and environmental factors also influenced the risk of overweight and obesity. For instance, birthweight greater than 3.5 kg was associated with a high risk of overweight or obesity in girls, regardless of age, whereas skipping breakfast was a risk factor for boys.

Further evidence of national differences in childhood weight gain comes from Due and coworkers, who evaluated the role of social inequality and macroeconomics in the development of overweight among 162,305 adolescents from 35 countries in Europe and North America. Due *et al.* observed marked differences in the prevalence of overweight from country to country, ranging from 3.5% (Lithuanian girls) to 31.7% (Maltese boys). Adolescents from English-speaking and Mediterranean countries had a higher prevalence of overweight than did those from Central Europe. Affluence level of the individual family, economic inequality (distribution of income among the entire population) and gross national income per capita all influenced the prevalence of overweight in adolescence within each country.

Taken together, the findings of these two studies suggest that the development of childhood overweight and obesity is an extremely complex process, subject to the effects of multiple external factors. The next step will be to gather additional data. “This aim could be achieved using highly standardized methods within the framework of multicenter studies, like the ongoing IDEFICS surveys,” states Siani.

Vicky Heath



**Original articles** Pigeot, I. *et al.* Prevalence and determinants of childhood overweight and obesity in European countries: pooled analysis of the existing surveys within the IDEFICS Consortium. *Int. J. Obes.* 33, 1103–1110 (2009).

Due, P. *et al.* Socioeconomic position, macroeconomic environment and overweight among adolescents in 35 countries. *Int. J. Obes.* 33, 1084–1093 (2009).