

Federation of the European Academies of Medicine (FEAM)

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REPORT ON THE CHILDHOOD OBESITY SESSION AT CONFERENCE HELD BY FEAM IN CAMBRIDGE ON SATURDAY 5 JULY 2003.

The meeting heard the following contributions:

Professor Stephen O’Rahilly, Professor of Clinical Biochemistry & Medicine, Department of Clinical Biochemistry, Addenbrooke’s Hospital, Cambridge
Title: “Genetic Factors in Childhood Obesity”.

Professor Stephen Bloom, Professor of Medicine, Head of Division, Investigative Science, Imperial College School of Medicine, London, 6th Floor, Commonwealth Building, Hammersmith campus, Du Cane Road, London, W12 ONN.
Title: “Mechanisms regulating appetite”.

Dr Jonathan Wells, Institute of Child Health, 30 Guilford Street, London, WC1N 1EH.
Title: “Body Composition in Normal and Obese Children”.

Professor Philip James, Director, Public Health Policy Group and Chairman, International Obesity Task Force, 3rd Floor, 231-3 North Gower Street, London, NW1 2NS
Title: “Childhood Obesity – The challenge of Prevention”.

Professor Sousa Pinto, President of the Portugese Academy of Medicine.
Title: “Childhood Obesity in Portugal”.

A paper on overweight and obesity in particular with regard to children in France was circulated and introduced by Professor Louis Auquier, Secetaire Perpetuel, French Academie de Medicine.

Between 40 and 70% of interpersonal variation body mass index is inherited and the recent large population change in Body Mass Index (BMI) and the increasing incidence of overweight and obesity are due to an upward shift in the whole population BMI distribution curve rather than to changes in its shape and in the centile distribution. For this reason it would seem appropriate to target remedial actions not only to those who are already overweight or those who are known to be at risk for familial or genetic reasons but to the whole population, if we are to reverse the widespread secular trends of recent years.

It was pointed out that whereas the Body Mass Index is an adequate indicator of obesity in adults, the BMI in children is age-related and even taking centiles of the BMI distribution may under-estimate the problem of obesity since these do not distinguish lean body mass and fat body mass.

The environmental changes that have produced the epidemic of obesity affect the control of appetite and do not produce metabolic changes. The hormonal and neural mechanisms of appetite control are becoming much more clearly understood. The hormone leptin, which is

produced by fat cells, suppresses appetite and its genetic absence is associated with severe obesity and uncontrollable hyperphagia. However leptin levels are not low in conventional obesity and leptin is not promising as a therapeutic agent to control conventional obesity. The stomach hormone, ghrelin, acts on the arcuate nucleus and stimulates appetite when infused in-vivo; and falls in ghrelin levels do reduce appetite. A further hormone, produced by the bowel, Peptide YY (PYY), suppresses appetite by acting on the arcuate nucleus. Infusion of an active fragment of this hormone PYY3~36 into humans effectively reduces food intake by about a third in both obese and lean people and appears to be free of major side effects. This provides a most promising approach for the development of drug for suppressing appetite. However the development of an orally active compound suitable for general use is still thought to be some years away.

The consequences of childhood obesity are well known. Among the most important is the greatly raised incidence of Type 2 diabetes. It was pointed out that having a BMI of 30 (the borderline level where overweight changes to obesity) at the age of 18 confers an eighty-fold excess risk of Type 2 diabetes compared with having a BMI of 21. Type 2 diabetes in the young is associated with a high incidence of retinitis and consequent blindness. Increases in the incidence of hypertension and of heart disease also follow. Obesity in children is a problem throughout Europe but at the present time the incidence is, surprisingly, highest in Southern Europe.

The urgent need now is to take appropriate action to prevent the development of obesity in children and to reduce it where it already exists. A variety of actions to reduce this major public health problem are proposed:

1. Recognise that childhood overweight in Europe is increasing rapidly and is already a major public health problem with serious consequences for the affected child and for society.
2. Recognise that there is a substantial polygenetic contribution to an individual child's excess weight gain but the increased weight of the population reflects major environmental effects.
3. Accept that both restricted physical activity and an inappropriate diet explain the current epidemic. Combating the current constraints on activity by altering the physical environment e.g. to produce safe play areas around housing with restricted car access should become important long term objectives, and should include safe walking and cycling to schools and to leisure facilities. Health considerations should become a crucial part of urban design and traffic policies as in the Netherlands, Copenhagen and Barcelona.
4. School facilities and physical education for children needs a new focus with children learning a range of sporting skills rather than competitive sports and with particular emphasis on the needs of young and adolescent girls.
5. Accept that children's diets are now inappropriate in most parts of Europe with too high a consumption of energy, fat, saturated fat, sugars and salt, all of which are linked to health risks.
6. Recognise that children develop the capacity for appropriate informed decision making only in adolescence so governments, schools and other public bodies need to act *in loco- parentis*, helping parents in the dietary education of their children.
7. Accept that commercial marketing of foods to children is inappropriate so:
 - There should be no access to schools by soft drink or food companies
 - Commercial advertising to children through the media should be banned as in Sweden
 - The provision of food by pre-school nurseries and schools should be controlled in line with current recommended diets, as presently arranged in Finland.
8. Schools should contribute to an understanding of good nutrition and provide children with the opportunity to learn cooking skills so that they can teach their parents.

9. Food and soft drink companies should be asked to limit all portion sizes on items intended for children as well as adult consumption.
10. New and understandable European food labelling is needed to help parents make appropriate food choices.
11. Given the current distortion of food prices by CAP in favour of cheap fats and sugars, Europe should consider how to readjust pricing policies eg by following several US States in applying a health promotion tax to foods high in fats and sugars.
12. Encourage breast-feeding of babies exclusively for at least the first four months of life. This reduces the incidence of subsequent obesity

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