

EC-DG Research Workshop – 16NOV10

New Technologies and Innovations to Tackle Obesity

Session 1: *Setting the strategies*. Rapporteurs: Sylvie Issanchou & Julian Mercer

Generic themes:

Several generic strategic themes emerged from the 4 presentations in Session 1. A key issue was the organisation, commissioning and funding of research. The risk of unproductive and uncoordinated duplication of effort, as opposed to the necessary confirmation of key findings, and the attendant risk of getting less than the maximum benefit from the public funding invested was highlighted as a major concern in several presentations. This forms the essential rationale behind the Joint Programming Initiative (JPI; Saris), national initiatives (Koletzko, Hubbard), and Europe-wide projects, networks and policies (European Charter; Breda). New research proposals should be challenged: ‘what does this research add?’, to ensure that public funds are spent more efficiently and effectively (Hubbard). Pooling of, and improving access to, data and resources, has clear potential for maximizing benefit, knowledge generation, and the impact of research outcomes (Saris, Koletzko). The need for ‘joined-up thinking’ in tackling the obesity problem was also highlighted, for example, in the need to link policies on obesity with the inequalities agenda (Social Determinants of Health; Breda); most countries have national strategies to combat both poverty and social exclusion, and overweight and obesity, but these policies are not interlinked (Action Networks; Breda). In addition to this need for cross-department thinking, there is also a need to involve all sectors of society – government, stakeholders, food industry, public/private partnerships, and individuals at all levels (Breda; Hubbard). The whole life span needs to be considered in tackling the obesity problem, and in particular heightened issues in vulnerable sub-groups.

Specific issues:

Breda: The presentation focussed on the prevalence of sub-optimal-nutrition-related non-communicable diseases in Europe and their relationship with social inequalities. The WHO European Childhood Obesity Surveillance Initiative (COSI) was highlighted – an Action Network. Childhood obesity was discussed in the context of breast-feeding, and adult obesity as impacted by socio-economic group and educational attainment. The message was that inequalities begin at, or before, birth, and are multi-faceted, but are certainly contributed to by diet. There was clear impact of caloric excess leading to obesity, but also of nutritional deficiencies leading to other long-term health problems.

Saris: The key challenges in ‘Food and Health’ were outlined, along with the plethora of relevant R&D programmes in the EU, and R&D expenditure by the European food industry. The money spent by EU governments is not co-ordinated at all between countries. To address the common challenges, Joint Programming in Food, Nutrition and Health has been proposed by the Member States. The focus of JPI research will be on lifestyle (determinants of food intake, behaviour and physical activity), diet, and diet-related chronic disease – “A Healthy Diet for a Healthy Life”. A route-map for the

operational commissioning of the JPI was proposed, which may require linkages with FP8 funding in order to establish infrastructure, to provide access to data from cohort studies and information about clinical trials, and for momentum to be achieved.

Koletzko: A number of key researchable targets were identified within Early Metabolic Programming, encompassing mechanism, genetics, and nutrition. Research into the Early Protein Hypothesis as part of the FP6 EARNEST project was used as an exemplar of how to translate from research study to dietary reformulation to modification of disease risk.

Hubbard: Obesity is a chronic condition that needs to be tackled at both population and individual levels and with different strategies (interventions for control and prevention), but is only one half of the dual burden of over- and under-nutrition. Everyone should be involved; partnering in implementation of individual, community and national strategies to add value. Strategies need to be long term, or outcomes will be reversed. 'Steps to a Healthier Nation' should see a shift in emphasis from disease care to health care (prevention), with focus on lifestyle, not on weight.

Potential research topics

- Population-level effective and sustainable initiatives
- Longitudinal studies – follow-up of existing cohorts; reversibility of causes of obesity; clues from the approaching obesity problem in developing countries? - changes in diet over the critical causative period?
- Life course approach, with a particular focus on early life nutrition, pre-conception, and ageing
- Combine observation and biological markers
- Determinants of decision making – why don't health messages change behaviour? Promotion of behaviour change – especially the perinatal period when messages are more likely to be taken up
- Research on social determinants especially in the most disadvantaged populations - breast feeding and inequalities – work/maternity leave practices
- Interaction between nutrition and physical activity
- Epigenetics

Possible research topics highlighted in final discussion session (JGM notes)

- Association between food consumption patterns and obesity
- Stimuli for food choices and behaviour driving overconsumption of obesogenic foods – sensory perception, taste, smell
- Molecular mechanisms of lean mass (muscle) signalling to the CNS – physical activity, exercise, integration
- Methodologies for measuring food intake/dietary intake – standard methods vs e.g. metabolomics – state-of-the-art of internet and mobile phone technology
- Pregnancy and childhood interventions
- Triglyceride biology and links to metabolic syndrome – metabolic profile and health problems – towards better biomarkers of developing metabolic health problems
- Sleep quality and methods to measure this