



young people's
nutrition
health



A conference for health and education professionals
Wednesday 7th March 2007
W5 at the Odyssey, Belfast



Young People's Nutrition and Health

Programme of Events

09.30

Registration and coffee

10.00

Professor Sean Strain, University of Ulster

Chairperson's introduction

10.15

Dr Gail Goldberg, MRC Human Nutrition Research Cambridge

Chips with everything? - what are young people eating and should we worry?

10.50

Dr Jo Cadogan, University of Oxford

Bone-building for the future - strategies for optimising bone health in adolescents

11.25

Coffee

11.45

Professor Carolyn Summerbell, University of Teesside

Food for thought - effects of diet on learning and school performance

12.20

Dr Trish Gorely, University of Loughborough

Young people and physical activity - from couch potatoes to runner beans

12.55

Lunch

2.00

Dr Michelle McKinley, Queen's University Belfast

Barriers and motivations for eating behaviours in young people - an overview

2.35

Professor Andrew Hill, University of Leeds

Social and media influences on adolescent girls' eating behaviour

3.10

General discussion

3.30

Close

Social and media influences on adolescent girls' eating behaviour

Professor Andrew Hill, Academic Unit of Psychiatry & Behavioural Sciences,
University of Leeds

Body dissatisfaction is commonplace for teenage girls and associated with dieting and unhealthy weight control behaviours. Surveys of young teenagers suggest that a quarter are currently dieting and a half have previously dieted. Dieting is seen in the food choices made, meal patterns such as missing breakfast and avoiding snacks, and in the appeal of vegetarianism.

The idealisation and pursuit of thinness are seen as the main drivers of body dissatisfaction, with the media prominent in setting thin body ideals. Television and consumer magazine production in the UK are extensive, annually releasing a million hours of programming and more than 3000 magazine titles. Their engagement by adolescent girls is high and in surveys girls identify thin and revealing body images as influential to the appeal of thinness and their pursuit of dieting. Experimental studies show a short-term impact of these images on body dissatisfaction, especially in teenagers who are already body image concerned. Magazine images appear more influential than TV viewing.

For many adolescents, selecting thin image media is purposive, permitting comparison of themselves with the models or celebrities featured. Indeed, the impact of the media needs to be understood within a social context as engagement is often a highly social process. In addition, the appeal of thinness is consolidated by the negative portrayal of fatness. Research suggests this negativity is expressed at an earlier age than the preference for thinness and that it has intensified in recent years. We need to ask whether this is an unintended consequence of the publicity concerning obesity.

Media influence is uneven because of differences in its content, the manner of communication and individual differences in vulnerability to its content. Greater social responsibility on the part of the media and better media literacy by children would be beneficial. For those working in young people's nutrition it is a reminder that their food choice and intake are subject to diverse competing, contradictory, and non health-related determinants.

Recommended reading:

Hill, A.J. Developmental issues in attitudes to food and diet. *Proceedings of the Nutrition Society*, 61, 259-266, 2002.

Hill, A.J. Motivation for eating behaviour in adolescent girls: the body beautiful. *Proceedings of the Nutrition Society*, 65, 376-384, 2006.

A systematic review of the effect of diet on learning and performance of school aged children of relevance to UK

Professor Carolyn Summerbell, University of Teesside, Middlesbrough

The aim of this review was to perform a systematic in-depth review of the best evidence from controlled trial studies that have investigated the effects of nutrition, diet and dietary change on learning, education and performance in school aged children (4-18 years) from the UK and other developed countries. The studies identified from this review examined the effects of breakfast consumption, sugar intake, fish oil and vitamin supplementation and 'good diets'.

The findings suggest there is insufficient evidence to identify any effect of nutrition, diet and dietary change on learning, education or performance of school aged children from the developed world. Further research is required in settings of relevance to the UK and must be of high quality, representative of all populations, undertaken for longer durations and use universal validated measures of educational attainment. However, challenges in terms of interpreting the results of such studies within the context of confounders such as family and community context, poverty, disease and the rate of individual maturation and neurodevelopment will remain. Whilst the importance of diet in educational attainment remains under investigation, the evidence for promotion of lower fat, salt and sugar diets, high in fruits, vegetables and complex carbohydrates, as well as the promotion of physical activity remains unequivocal in terms of health outcomes for all school children.

This work was funded by the Food Standards Agency (UK). A copy of the full report is available at: <http://www.food.gov.uk/multimedia/pdfs/systemreview.pdf#page=1>

Barriers and motivations for eating behaviours in young people - an overview

Dr Michelle McKinley, Queen's University Belfast

Poor eating habits established during childhood and adolescence may have long-term consequences for health. National dietary surveys, such as the National Diet and Nutrition survey, indicate that a significant proportion of young people are not meeting dietary recommendations or consuming a balanced diet.

Adolescence is a time of rapid biological, psychosocial and cognitive change and, although it represents an opportune time for interventions to improve health, the complex transitions occurring at this time make such interventions difficult. In order to effectively encourage dietary change it is necessary to understand the key barriers and motivations that influence eating behaviour in this group; an attempt can then be made to either remove or utilise such factors in intervention strategies.

This paper examines the key barriers and motivations in relation to the eating behaviour of young people, as indicated by the literature to date. Key barriers include lack of concern about healthy eating, peer influence, food preferences and issues surrounding food availability. Key motivations include family support, concern over appearance and physical performance.

Young people and physical activity - from couch potato to runner bean

Dr Trish Gorely, School of Sport and Exercise Sciences, Loughborough University

The strong rise in obesity in young people over the past decade is widely reported by academics and the media alike, and great concern has been expressed about the current and future health implications of such trends. Few doubt that for young people there are many changes that have occurred from the latter half of the 20th century that give cause for concern about the physically inactive nature of lifestyles. Indeed, the increases in juvenile obesity have been attributed partly to television viewing and other sedentary behaviours which are thought to compete with physical activity. Travel statistics also show marked declines in personal transportation and changing travel habits of children and youth. Other studies though, have shown that young people can report high levels of interest and motivation in sport, physical education and other physical activities.

This presentation will address key issues of young people and participation in active lifestyles. More specifically the presentation will make reference to: (a) the heterogeneity of young people's motivational profiles in physical activity, (b) the nature and prevalence of sedentary behaviours of young people and whether such behaviours compete with physically active pursuits, (c) the different clusters (groups) of young people reflecting multifaceted lifestyles and (d) examine possible ways forward in promoting physically active lifestyles in young people. It will be suggested that a focus on single behaviours, and particularly single sedentary behaviours, is unlikely to effectively address the issue of youth sedentariness. A focus on overall behavioural patterns will be advocated.

Chips with everything? What are young people eating and should we worry?

Dr Gail Goldberg, MRC Human Nutrition Research, Cambridge

Energy and many nutrients are essential for young people's growth and development. An inappropriate dietary supply from whatever cause may result in negative effects on growth and development, and there are many well-characterised classical deficiency diseases. The prevalence of nutrition-related deficiency diseases among children and young people in many parts of the world is high and therefore an important public health problem. In contrast, overt nutritional deficiencies in the UK, Ireland and other parts of western

Europe are very rare. However, the extent to which populations are at risk of sub-clinical or marginal deficiencies is more difficult to assess. Few countries have dietary intake information that is nationally representative; the UK's National Diet and Nutrition Survey and Ireland's National Children's Food Survey are notable exceptions. Such data indicate that intakes of macronutrients and many of the micronutrients do not give rise for concern in relation to frank nutritional deficiencies. However, for some nutrients average intakes are below recommendations. Although there are well-recognised difficulties surrounding reference values and estimates of dietary intake, a marked proportion of children may have intakes that are marginal for optimal growth and development. Concerns have been expressed that the diets of children and adolescents in the UK and Ireland may not be the best for their long-term health because the intakes or status of some nutrients may be lower or higher than may be optimal for growth or physiological function. There are also anxieties expressed that the main food sources of some nutrients may not be the most appropriate, that food group recommendations are not being met, and that recent or anticipated changes in eating and lifestyle habits may compromise nutritional adequacy; e.g. by displacing some foods from the overall diet.

All these topics will be discussed at the conference using data from the UK National Diet and Nutrition Survey, Ireland's National Children's Food Survey, and the Northern Ireland Young Hearts Project.

Bone-building for the future - strategies for optimising bone health in adolescents

Dr Jo Cadogan, University of Oxford

Osteoporosis is a chronic, debilitating disease whereby the density and quality of bone are reduced. The bones become porous and fragile, the skeleton weakens, and the risk of fractures greatly increases. The loss of bone occurs 'silently' and progressively, often without symptoms until the first fracture occurs, most commonly at the wrist, spine and hip. Osteoporosis is a major public health problem; approximately one out of three women and one out of five men over 50 years will sustain a fracture due to osteoporosis. The critical years for building bone mass are during childhood and adolescence. By the end of the second decade, 90-95% of total body peak bone mass is attained, with bone growth during adolescence accounting for about half of this figure. Peak bone mass is determined by a combination of endogenous (e.g. genetic, hormonal) and exogenous (e.g. nutrition, physical activity, lifestyle) factors. These exogenous factors are amenable to intervention and could thus provide a basis for public health strategies for preventing osteoporosis - ensuring the acquisition of maximal peak bone mass (within the genetic potential), thereby potentially reducing vulnerability to osteoporosis later in life.

Calcium is a major building-block of bone tissue, with the skeleton housing 99% of the body's calcium stores, and an adequate intake is essential for bone health throughout life. The importance of calcium to bone health has been demonstrated in a number of research studies, in human subjects across the age range. Intervention trials carried out

over one to three years in children and adolescents have shown that supplementation with either calcium, dairy calcium-enriched foods, liquid milk, or a calcium-enriched milk powder enhances the rate of bone mineral acquisition, compared with un-supplemented (or placebo) control groups. In general, these trials increased the usual calcium intake of the supplemented children from about 600-800 mg/day, to around 1000-1300 mg/day. Although these studies were short term, if the higher calcium intakes were maintained over the longer term, such an increment could have a beneficial impact on peak bone mass. This theory is supported by the findings from some retrospective observational studies, which have shown that high calcium intakes throughout all of early life are associated with higher peak bone mass.

Vitamin D is also essential for the development and maintenance of bone, both for its role in assisting calcium absorption from the diet, and for ensuring the correct renewal and mineralisation of bone tissue. Severe vitamin D deficiency results in inadequate mineralization of the bone matrix, leading to rickets in children and osteomalacia in adults. In industrialised countries, rickets and osteomalacia are relatively rare conditions. However, recent evidence suggests that milder degrees of vitamin D inadequacy are common (including in sunny climates), which could potentially predispose to poor bone health and osteoporosis. Protein is a key constituent of bone tissue and therefore an adequate dietary supply is essential, especially in growing children. Other factors to consider for bone health in young people include excessive consumption of alcohol and carbonated soft drinks (the latter tending to 'displace' milk in the diets of children and teenagers), physical activity levels, and the impact of eating disorders such as anorexia nervosa on bone mass accrual.



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