Proceedings of the Nutrition Society

Abstracts of Original Communications
Errata

A Scientific Meeting was held at the University College, Cork, Republic of Ireland on 27–30 June 2000, when the following papers were presented.

The rest of the abstracts for this meeting have been published in Volume 60, OCA.

All abstracts are prepared as camera-ready material.

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Prevalence of key dietary and lifestyle risk factors for osteoporosis in young British women. By J. CATTERICK[1], J.A. BISHOP[1], V.K. BANNER[1], N.J. JOTCHAM[1], D. PATTISON[2], A. WOOLF[2] AND S.A. NEW[1], [1]*Centre for Nutrition & Food Safety, School of Biological Sciences, University of Surrey, Guildford GU2 7XH and* [2]*Duke of Cornwall Rheumatology Unit, Royal Cornwall Hospital, Truro, Cornwall TR1 3LJ.*

Osteoporosis manifests itself as fracture in later life with an exponential increase in hip fractures after the age of 70 years. The amount of bone gained in earlier life (known as peak bone mass;PBM) may determine those who develop osteoporosis and those who do not. Increasing PBM in young women is considered the most effective approach for the prevention of osteoporosis and thus public health strategies to educate young women about bone health and targetting those at highest risk are essential (Department of Health, 1994).

Although risk factors for osteoporotic fracture have yet to be fully quantified, there is good evidence to suggest that the lifestyle risk factors include: smoking, excessive alcohol intake, physical inactivity and high-intensity exercise resulting in amenorrhoea. Dietary risk factors include: low Ca and vitamin D intakes and high intakes of caffeine and Na. In addition, there is growing support for the importance of a diet favouring a high consumption of fruit & vegetables (thus increasing dietary K) and moderate intakes of protein (Muhlbauer & Li 1999; Tucker *et al.* 1999; New *et al.* 2000).

As part of a 12-month study investigating the extent of osteoporotic fractures in young British women, information on the prevalence of important dietary and lifestyle factors in this population group have been reviewed using survey material including: Allied Dunbar Survey (1990), Dietary and Nutritional Survey of British Adults (1990) , Health Survey for England (1994, 1996, 1998), National Food Survey (1998), and research papers published over the last two decades. The age groups: 16–24 years, 25–34 years and 35–44 years have been investigated.

Results showed a consistency for dietary intake of Ca to be between ~700–900mg/d (above the UK recommended nutritient intake (RNI; 700mg/d) but below that recommended by the USA National Institute for Health (1000mg/d)), with the lowest intakes being in the 16–24 year old age group (~675mg/d). Na intakes were consistently high amongst all three age groups and intakes were well above the RNI (16–24 years, 2334mg/d; 25–34 years, 2372mg/d; 35–44 years, 2398mg/d; RNI (1600mg/d)). K intakes were found to be much lower than the RNI (3500mg/d) amongst all three groups, with the lowest intakes in the 16–24 years (mean intake, 2400mg/d). The percentage of women smoking and drinking alcohol was highest in the 16–24 year old age group, with 37% of women classified as smokers and 19% admitting to drinking over 14 units of alcohol per week. Older women were most likely to be heavy smokers (>20 cigarettes per day). Physical activity levels between the surveys and papers showed extreme discrepancies, highlighting further the need for standardisation of physical activity measurements in population groups.

These findings suggest that the dietary and lifestyle habits of young British women are a cause for concern with regard to increasing their risk of osteoporotic fracture in later life and development of health promotion campaigns, particularly amongst the 16–24 years, fully justified.

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Tucker KL, Hannan MT, Chen H, Cupples LA, Wilson PWF & Kiel DP (1999) *American Journal of Clinical Nutrition* **69**, 727–736.

Consumer perceptions of genetically modified foods: changes over time. By S.F.L KIRK[1], J.E. CADE[1], D. GREENWOOD[2] and A.D. PEARMAN[3]. [1]*Nutrition Epidemiology Group and* [2]*Sub-Unit for Medical Statistics, Nuffield Institute for Health, 71-75 Clarendon Road, Leeds, LS2 9PL,* [3]*Leeds University Business School, The University of Leeds, Leeds, LS2 9JT*

Genetic modification of foods is a controversial new technology. While proponents claim that it will have enormous benefits for global food production, detractors suggest that genetic modification is unsafe and promotion of the technology should be halted until further research has been conducted (Sheppard, 1996). The confusion surrounding genetic modification might well be expected to have a significant impact on public confidence. In this study, consumer trends in regards to concern about the use of genetic modification were investigated.

The sample consisted of 273 subjects who were taking part in a national study investigating public perceptions of food risk. These subjects completed a postal questionnaire based on the Perceived Food Risk Index (PFRI) (Fife-Schaw & Rowe, 1996) in October 1998, January–July 1999 and October 1999. The PFRI consists of 10 items for assessing perceptions of risk. In this paper, three dimensions were explored: (i) level of worry; (ii) the extent that the consumer felt the Government should be responsible for protecting people; (iii) how much they felt scientists knew about genetically modified foods.

Repeated measures ANOVA was used to investigate trends over time, including the effect of age and gender on these time trends. Overall the reported level of concern was high.

(i) *Worry*. Age did not significantly affect worry levels overall, but women scored significantly higher than men ($P<0.001$). There were no significant changes in worry levels over time, and no evidence that people of different age or gender responded differently over time.

(ii) *Government's responsibility*. Neither age nor gender had any effect on how much people thought it was the Government's responsibility to protect against risks. There were no changes over time in their views, and no evidence that age or gender had any influence on response over time.

(iii) *Scientists' knowledge*. Older people were more sceptical about scientists' knowledge than younger people ($P=0.047$). There was no evidence of differences between men and women. There were no significant changes over the year, nor were there any differences in how responses for men and women changed over time. Despite older people being more sceptical overall, there was no evidence that older people responded differently over time to younger ones.

Mean (95% CI) scores for men and women over time
(Scores from 1 to 5. 1 represents low worry, little knowledge or government's responsibility)

	October 1998		Jan / Apr / Jul 1999		October 1999	
	Men	Women	Men	Women	Men	Women
Worry	2.76 (2.50, 3.03)	3.41 (3.21, 3.60)	2.92 (2.66, 3.19)	3.63 (3.43, 3.82)	2.97 (2.72, 3.21)	3.42 (3.24, 3.60)
Scientists knowledge	2.50 (2.27, 2.73)	2.62 (2.45, 2.78)	2.46 (2.25, 2.67)	2.48 (2.33, 2.64)	2.47 (2.27, 2.67)	2.42 (2.28, 2.56)
Government's responsibility	4.06 (3.84, 4.28)	4.16 (4.00, 4.32)	4.07 (3.89, 4.25)	4.36 (4.22, 4.49)	4.16 (3.97, 4.36)	4.21 (4.07, 4.35)

The findings of this study suggest that concern about genetic modification is high, particularly among women and this concern has remained consistently high over a period of 1 year. Government policies to manage food risks need to take account of the views of the public, which may not always concur with those of the policy makers.

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