

Winter Meeting – Joint meeting between the Nutrition Society and the Royal Society of Medicine, 11–12 December 2012, Dietary Strategies for the Management of Cardiovascular Risk

## Accuracy of diet quality perception in Scottish adults

S. Whybrow, J. Loe, J. I. Macdiarmid, J. Kyle and G. McNeil

Public Health Nutrition Research Group, Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen AB25 2ZD, UK

While health promotion activities have increased public awareness of diet-related health concerns, the Scottish diet remains typically higher in fat and sugar, and lower in fruits and vegetables (F&V) than recommended. This pilot study considered how well people’s perceptions of key components of their diet compared to actual intakes. Eighteen men and 26 women, aged between 25 and 64 years, recruited from general practices in Aberdeen, were asked “How well do you think your normal diet would compare to an ideal diet?” with respect to fat, sugar, fibre and amounts of F&V. Five point Likert scales were used with responses from “a lot too much” to “a lot too little”, which were reduced for analysis to three categories; “high” (a lot/a bit too much), “about right”, and “low” (a lot/a bit too little). Each subject also completed a 4-d non-weighed food diary. The weights of foods consumed were estimated by trained researchers, and the food records analyzed using WinDiets (Univation Ltd., Robert Gordon University, Aberdeen) to provide estimated intakes of total fat, sugar (calculated as Non-Milk Extrinsic Sugar (NMES)) fibre (calculated as Non-Starch Polysaccharide (NSP)) and F&V. Ideal intake levels were defined for comparison as the recommended population mean (Department of Health, 1991, Scottish Office, 1996) ± 1 SD of the mean reported intake in the UK National Diet and Nutrition Survey (Bates *et al.* 2010). Subjects were classified as “very optimistic” (VO), “optimistic” (O), “realistic” (R), “pessimistic” (P) or very pessimistic (VP), according to how well their perceptions of their diet agreed with where their reported intake fell; above, within or below the ideal range, as shown below. The VO, O, P and VP categories were reversed for NSP and F&V, because higher rather than lower intakes are preferable for these nutrients.

		Estimated nutrient intake from diet diaries		
		High	Within ideal range	Low
Perceived intake for fat and sugar	“High”	<b>Realistic</b>	Pessimistic	Very pessimistic
	“About right”	Optimistic	<b>Realistic</b>	Pessimistic
	“Low”	Very optimistic	Optimistic	<b>Realistic</b>

The mean energy intake from the diet diaries was 1.11 (±0.35) × estimated BMR. Overall, almost a half of subjects had realistic estimates of their diet, but this ranged from 33% for fat to 61% for F&V.

	Ideal	Healthy range	Intake		VO	O	R	P	VP
			Mean	SD					
Fat (% food energy)	<35 %	28.3–41.7	36.6	(6.5)	5%	2%	33%	50%	10%
Sugar (% food energy)	<11 %	4.3–17.7	13.7	(6.1)	0%	15%	44%	41%	0%
Fibre (g/d)	18	12.8–23.2	10.8	(4.2)	0%	33%	46%	21%	0%
F&V (g/d)	400	216–584	267	(170)	0%	7%	61%	32%	0%

Although fat intakes were close to the recommended population mean, 60% of subjects were classed as pessimistic about their intake compared to the diet diaries. By contrast, 33% of subjects were classed as optimistic about their fibre intake, even though reported intakes were considerably below recommended levels. Intakes of F&V were also well below recommended levels, although this appeared to be recognized by over half of the subjects.

In this group of subjects the results suggest that a need to reduce fat intake may be widely perceived, even though intakes are around the recommended level, but that the need to increase fibre intake is underestimated.

In larger samples of subjects, this approach could be used to investigate differences in the accuracy of diet quality perception between nutrients, and between population sub-groups. This information could help the design and targeting of health promotion messages on diet.

1. Scottish Office. (1996) Eating for Health. A Diet Action Plan for Scotland. HMSO, Edinburgh.
2. Department of Health (1991) Dietary reference values for food energy and nutrients for the United Kingdom HMSO, London.
3. Bates B, Lennox A, Swan G (2010) National diet and nutrition survey. Headline results from year 1 of the rolling programme (2008/2009). London: Food Standards Agency, Department of Health.