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PROCEEDINGS OF THE NUTRITION SOCIETY

ABSTRACTS OF COMMUNICATIONS

A joint meeting of the Nutrition Society (Nutrition and Health Group) with the Guild of Food Writers was held at the Royal Society of Medicine, 1 Wimpole Street, London on Thursday, 21 February 1991, when the following papers were read.

Meal characteristics as indicators of nutrient intake. By ANNIE S. ANDERSON, *Department of Obstetrics, Aberdeen University**, ANDREW WALKER, *Institute of Food Research, Norwich Laboratory, Norwich* and M. E. J. LEAN, *Department of Human Nutrition, Glasgow University*

The popular British view that it is desirable to have one 'proper' cooked meal daily, with meat and fish, vegetables and potatoes (British Nutrition Foundation, 1985) has been examined.

Randomly selected Scottish women (n 112) in the third trimester of pregnancy completed 4 d diet diaries (Edington *et al.* 1989). Nutrient contents were assessed using mean portion weights from weighed studies in the same population (A. S. Anderson, unpublished results), published portion sizes (Crawley, 1988) and food composition tables (Paul & Southgate, 1978). In total 801 main meals (excluding breakfast) were analysed, 120 corresponding to four marker meal types:

WASP: all home-prepared, meat, vegetable, potato, dessert;

FAST: convenience meal, all items ready-prepared;

REST: meals consumed in a restaurant;

TAKE: meals bought from a take-away.

Nutrient compositions of 24 h dietary intakes were compared between days on which the four meal-types were eaten.

Mean (and SD) daily nutrient intake by meal type

	<i>n</i>	Energy (MJ)		energy % from fat		energy % from CHO		Calcium (mg)		Iron (mg)		Vitamin C (mg)		Fibre (g)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
WASP	45	10.4	2.3	38.6	7.8	47.7	7.2	1012	390	15	7	101	67	24	8
FAST	47	10.0	2.8	41.4	7.4	45.0	6.5	1042	437	14	6	66	14	21	8
REST	13	11.4	1.8	43.0	5.9	43.0	6.2	1086	390	15	5	72	39	21	8
TAKE	15	10.7	1.9	41.8	6.6	46.6	5.8	931	308	11	3	91	79	16	6

CHO, carbohydrate.

There were no significant differences detected for any nutrient by ANOVA. Mean nutrient contents of the four meal-types showed a pattern similar to 24 h intakes:

WASP 4.3 MJ, 24 energy % from fat, 48 energy % from CHO; FAST 3.6 MJ, 46 energy % from fat, 40 energy % from CHO; REST 4.4 MJ, 45 energy % from fat, 38 energy % from CHO; TAKE 3.8 MJ, 45 energy % from fat, 41 energy % from CHO.

In conclusion, all four eating patterns are currently too high in fat and low in fibre-rich carbohydrate. Dietetic advice to avoid or reduce convenience eating should be tempered, although the data remain statistically consistent with small benefits from fully home-prepared meals.

British Nutrition Foundation (1985). *Eating in the Early 1980s*. London: British Nutrition Foundation.

Crawley, H. (1988). *Food Portion Sizes*. London: H.M. Stationery Office.

Edington, J., Thorogood, M., Geckie, M., Ball, M. & Mann, J. (1989). *Journal of Human Nutrition and Dietetics* 6, 407-414.

Paul, A. A. & Southgate, D. A. T. (1978). *The Composition of Foods*. London: H.M. Stationery Office.

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Ethnic food preferences. By HERBERT L. MEISELMAN and RICK BELL, *Institute of Food Research, Reading RG2 9AT and US Army Natick RD & E Center, Natick, Mass. 01760, USA* (Introduced by Dr. R. Shepherd)

In our surveys of food preferences over the past 30 years (Meiselman, 1988) Mediterranean foods, such as Italian foods, have been among the most popular. Further studies using questionnaires of food likes and dislikes showed that ethnic food preferences of Air Force personnel differed between racial groups. However, preference for Mediterranean food did not differentiate male and female, or overweight and underweight respondents.

More recently we have begun to examine the sensory basis of ethnic food identity. Six different ethnic (Italian, Chinese, Mexican, Cajun, Indian, American Black) chicken dishes were served in which the variables of name, spice and sauce were factorially varied; approximately thirty untrained panelists tried each sample. That is, chicken was served to taste-test panelists in a laboratory setting with the name only, the sauce only, the spice only, and all combinations of these three. Serving chicken with all three variables served as the control to determine what factors control each item's ethnic identity. The presence of sauce was a powerful variable influencing correct identification of the Italian dish as well as Chinese, Mexican and American Black dishes (Bell & Paniesin, 1991). Simply using the correct name alone or in combination with the sauce did not enhance identification of the food as Italian. Many food professionals might predict that spice would contribute to ethnic identification. In fact, for the Italian dish and other ethnic dishes adding spice to the sauce reduced ethnic identification. This leads to the tentative conclusion that naming products inappropriately as ethnic can lead to confusion or rejection by the consumer.

Variables % . . .	Control	Sauce/ only	Sauce/ name	Sauce/ spice	Name/ spice	Name only	Spice only
Italian	86.2 ^a	80.0 ^a	80.0 ^a	53.3 ^b	46.7 ^{bc}	20.0 ^c	23.3 ^c
Other ethnic	10.3 ^{ab}	6.7 ^b	10.0 ^b	30.0 ^a	10.0 ^b	10.0 ^b	26.7 ^{ab}
Not ethnic	3.4 ^c	13.3 ^c	10.0 ^c	16.7 ^c	43.3 ^b	70.0 ^a	50.0 ^{ab}

^{a,b,c} Values in the same horizontal row with different superscript letters were significantly different (χ^2 test): $P < 0.05$.

Bell, R. & Paniesin, R. (1991). What makes a food ethnic?: Toward an experimental definition of the perception of ethnic foods. In *ASTM STP, Product Development and Research Guidance Testing with Special Consumer Groups* [L. Wu, editor].

Meiselman, H. L. (1988). Consumer studies of food habits. In *Sensory Analysis of Foods*, 2nd ed. [J. R. Piggott, editor]. London: Elsevier.