

Editorial

Food intake methods in clinical practice

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The way people eat is important in its own right for health. When the nutritional status of patients is under consideration, presumed surrogates for intake are often used, like weight and height, haemoglobin and blood film, serum lipoproteins, glycaemic status, serum levels of micro nutrients or bone densities. These measures are, in reality, determined by a number of factors which determine nutrient flux, and any one is only a partial statement of the food/nutritional status relationship, let alone of measures of health outcomes. Thus food intake itself, in all its complexity, is worthy of consideration, and often essential to understand clinical problems.

And it is not just the food intake, but *the circumstances of eating* ie how the food is obtained and prepared, how affordable it is, what function (social, family or personal) eating serves, what religious or cultural beliefs about food apply, which are often worth establishing at the time of consultation. Increasingly, food choice is based on knowledge and skills not previously required, such as the ability to appreciate changes in food technology and to read and interpret food labelling. Patients may need to be encouraged to bring food labels with them to the consultation for clarification of eating practices. It may well be that even traditional cooking, has been neglected and now limits food choice. Family structure, whether it be single, single-parent, traditional parent-child unit, with or without grandparents; mobile or permanent places of abode; proximity to fresh food markets, supermarkets, take away food outlets, street or hawker stalls, or restaurants; availability and use of motor vehicle or public transport; work patterns – these and many more factors may impinge on health through food. They therefore have implications for food intake methodology in clinical practice.

Against this background, *systematic enquiry into food intake* is helpful¹. There are broadly three practical way of eliciting food intake information in clinical practice.

1 Key Questions

Setting the scene

Where do you see the problems with your eating, if any?
 Have you made/are you intending to make changes in the way you eat?
 How is your appetite?

Identifying the food pattern

Do you eat out?
 Who does the cooking?
 Do you have breakfast?
 Do you snack?

Food specific

What about fatty foods, fried foods, cooking in oil, fat spreads?
 Do you eat fish?
 Do you eat fruit? What sorts? How much?
 Do you eat sweets, sweet biscuits, confectionery, chocolate?
 How many cups of coffee, tea, glasses of fruit juice a day?

Disease specific eg osteoporosis

What do you have in the way of dairy products? (for calcium) Are they low fat? Do you add salt, cook with salt, soya sauce, MSG, bicarb soda? (for sodium) Do you use caffeinated beverages? Do you use tofu, nuts sprouts, carrots, green leafy vegetables? (for phytoestrogens)

2 Food diary

The patient is encouraged to keep a record of food and beverage intake, in accordance with time of day, usually for seven days, allowing for variations from day to day, especially from week day to weekend day. This can then be reviewed at a subsequent consultation and key points that relate to the patient's particular health problem highlighted for attention. A copy of the food diary can be in the doctor's record and can become part of the patient's personal record. A particular advantage of a food diary is that it begins the process of insight development, assumption of responsibility and behavioural change in relation to eating².

3 Usual food intake by history

Annotations can be made about the usual way each episode of eating is handled and what food and beverages are eaten. The period of enquiry can be defined. For example it may be suggested to patients that the last week is of interest and/or it may be of interest to enquire about the pattern prior to an illness or a change in food habits. A search for food patterns at different times in a patient's

life, albeit usually coloured by the present, can be of assistance in understanding the pathogenesis of problems like obesity, hyperlipidaemia and hypertension.

Medical record annotations can be simplified by use of abbreviations for particular foods and for noting how many times a week, month or year as a fraction of the number of days of the relevant period.

The *evaluation of this information* is often best achieved by a few food indices like:

- (a) degree of food cultural adherence
- (b) food variety
- (c) use of fatty food
- (d) quality of fat used
- (e) sources and amounts of sodium used, in its various forms
- (f) number of standard drinks of alcohol
- (g) use of good sources of key nutrients: eg folacin, iron, calcium, protein
- (h) factors determining bioavailability of nutrients:
 - use of iron containing foods with vitamin C containing foods, like breakfast foods and citrus fruits together
 - zinc from leavened products where phytase is operative
- (i) amounts of carbohydrate – containing foods eaten on the one occasion and their distribution through the day in someone with diabetes.
- (j) use of caffeinated foods and beverages in relation to risk of osteoporosis or in the analysis of the problem of palpitations.

Use of food sources of non-nutrients of biological value such as those that are good sources of weakly oestrogenic compounds⁴ or of salicylates³.

Opportunities for food and beverage change require identification as a prelude to planning nutritional strategies and long term programs.

Documentation of baseline and follow-up food intake helps establish it as a useful clinical endpoint. More effort needs to go into the use of smaller personal computers like the current notebooks to handle, present and use this information for counselling. The information in the hands of patients enhances involvement and commitment and it provides opportunities for 'shared-care' amongst the several attendant health care practitioners involved.

One of the common failures in clinical nutrition practice is for food and beverage intake not to be reviewed and the need for change to be reinforced by the management team. Where there is a food-related

problem it is unusual for review not to be required at least six or twelve monthly.

With practice, repertoires of clinical nutritional assessment will emerge for particular problems and the appropriate food and beverage approach made. Examples would be:

- (i) *Ischaemic heart disease*: encourage use of cardio-protective foods if inadequately used, namely: 'low fat' fish two or three times a week; plentiful and varied plant-derived foods, especially in regard to a range of colour and fibre type; low sodium.
- (ii) *Diabetes*: first ensure the use of a nutritionally adequate food pattern where nutrient dense foods and a wide variety are in evidence; then the use of foods which will minimize the development of diabetic complications like cardioprotective foods; then, optimize glycaemic status by the use of unrefined carbohydrate and low fat (using oils which are monounsaturated like olive or Canola) based foods, but with serving sizes so that not too much carbohydrate is presented at once.
- (iii) *Wasting disorders*: when appetite and oral route allow, foods which are nutrient and moderately energy dense, like nuts, dried fruits, liver, fish, lean meat, low fat dairy products and eggs or nutritionally complete formula feeds or nutrient supplementation to food.

It is rarely necessary to calculate energy or nutrient intakes to be useful in assisting with food intake from a health point of view. Knowing the baseline measures of food and health in an individual, the required direction of change, and the nature of useful change are what is required⁵.

References

- 1 Marks SJ, Wahlqvist ML. Practical dietary advice in primary care medicine. *Modern Medicine* 1991; 34(1): 43-57.
- 2 Stunkard AJ. Behavioural management of obesity. In: International symposia on nutrition and obesity: the state of science. Edited by Wahlqvist ML, Truswell AS, *Med J of Austr* 1985; 142(7):S13-S20.
- 3 Weisman G, Aspirin, *Scientific American* 1991 (January), pp 58-64.
- 4 Wilcox G, Wahlqvist ML, Burger HG, Medley G. Oestrogenic effects of plant-derived foods in postmenopausal women. *Br Med J* 1990; 301:905-906.
- 5 Wahlqvist ML, Vobecky JS. Patient problems in clinical nutrition: A manual. London: John Libbey, 1987.